

Verenigingsnieuws



Abstracts Wintermeeting Belgische Vereniging voor Gerontologie en Geriatrie 2016

1. Psychofarmaca ter preventie van delirium binnen een orthogeriatrische populatie

Thomas Acke, Eva Flamand, Stany Perkisas

Doel Een postoperatief delirium binnen een orthogeriatrische populatie - personen met geriatrisch profiel waar orthopedische chirurgie heeft plaatsgevonden - is zeer frequent. Een delirium is geassocieerd met een verminderde functionele status en een verhoogde opnameduur, morbiditeit, cognitieve deterioratie, institutionalisering en mortaliteit. In de preventie van delirium zijn vooral niet-farmacologische interventies zinvol. Deze literatuurstudie geeft een overzicht van de huidige evidentie voor farmacologische interventies in deliriumpreventie in een orthogeriatrische populatie; tegelijk wordt een aanbeveling voor de praktijk meegegeven.

Methodologie Systematische zoekstrategie via PUBMED met zoektermen 'geriatrics', 'delirium' en 'orthopaedic surgery'. Enkel volledig beschikbare originele studies werden weerhouden. Referenties werden nagekeken voor additionele artikels.

Resultaten In totaal werden 7 gerandomiseerde placebogecontroleerde studies weerhouden. De onderzochte farmaca waren haloperidol, olanzapine, donepezil en melatonine. Bij toediening van haloperidol of donepezil is de incidentie van delirium tijdens ziekenhuisopname bij orthogeriatrische patiënten vergelijkbaar met placebo. Eén studie vermeldt een significant verschil in incidentie van delirium onder melatonine (9%) in vergelijking met placebo (33%), doch een andere studie kon dit niet weerhouden. Olanzapine blijkt superieur ter preventie van delirium in vergelijking met placebo met een incidentiedaling van 40% naar 14%, doch er was sprake van een meer ernstig en langer aanwezig delirium bij de interventiegroep.

Conclusie Het nut van een farmacologische profylaxe van een delirium binnen een orthogeriatrische populatie blijft onduidelijk. Het beperkt aantal onderzochte farmaca in verschillende dosissen en de kleine, heterogene studiepopulaties maken dat er tot op heden weinig evidentie is voor het preventief starten van farmacologische ondersteuning bij orthopedische chirurgie binnen een geriatrische populatie.

2. Impact of drugs with anti-inflammatory effects on skeletal muscle and inflammation: a systematic literature review

Mohammad Alturki, Ingo Beyer, Ivan Bautmans

Purpose Age-related disturbances in immune function induce a chronic low-grade inflammatory profile (CLIP), which aggravates sarcopenia and frailty. The aim of this review is to investigate the influence of drugs with anti-

inflammatory effects (AID) on CLIP, muscle mass and muscle performance.

Methods PubMed and Web of Science were systematically screened for articles reporting interactions between AID and muscle mass, muscle strength and/or inflammatory markers. Studies were excluded when dealing with specific chronic diseases (e.g. cachexia, Duchenne muscular dystrophy) or dementia. Effect sizes (ES) were calculated to standardize the interaction effects, classified as small ($ES < 0.2$), medium ($0.2 \leq ES \leq 0.5$) or large ($ES > 0.5$).

Results Fourteen relevant studies were identified, of which only five were performed on older animals (one study) and humans (two in healthy volunteers and two in geriatric hospitalized patients). For those five, AID (Ibuprofen, Acetaminophen, Celecoxib and Piroxicam) showed a general attenuation in most inflammatory markers, accompanied by improvements in muscle mass (medium to large effect for Quadriceps muscle volume ($P < 0.05$) and muscle growth regulator MuRF-1 ($P < 0.05$)) as well as improvement in muscle performance (large effect for fatigue resistance, grip work, quadriceps muscle strength, gastrocnemius, extensor digitorum longus and tibialis anterior and medium effect for the Elderly Mobility Scale).

Conclusion Our results show that AIDs can improve muscle mass and muscle performance. However, data for older persons are scarce, and beneficial effects may depend on the clinical context and potential side effects. Therefore, more research in older humans is necessary.

3. Age-related differences in muscle recruitment and reaction-time performance

Pauline Arnold, Stijn Vantieghem, Ellen Gorus, Elien Lauwers, Yves Fierens, Annelies Pool-Goudzwaard, Ivan Bautmans

Purpose Previously, we showed that prolonged reaction time (RT) in older persons is related to increased antagonist muscle co-activation, occurring already before movement onset. Here, we studied whether a difference in temporal agonist and antagonist muscle activation exists between young and older persons during a RT test. RT performance is related to fall risk in elderly.

Methods We studied Mm. biceps (antagonist) and triceps (agonist) brachii activation time by sEMG in 60 young (26 ± 3 years) and 64 older (80 ± 6 years) community-dwelling subjects during a simple point-to-point RT test (moving a finger using standardized elbow extension from one push button to another following a visual stimulus). RT was divided in premovement time (PMT, time for stimulus processing) and movement time (MT, time for motor response completion). Muscle activation time (MAT)(1) following stimulus onset (premuscle activation time, PMAT) and (2) before movement onset were calculated.

Results PMAT for both muscles was significantly longer for the older subjects compared to the young (258 ± 53 ms vs. 224 ± 37 ms, $p = 0.042$ for biceps and 280 ± 70 ms vs. 218 ± 43 ms for triceps, $p < 0.01$). Longer agonist muscle PMAT was significantly related to worse PMT and RT in young ($r = 0.76$ and $r = 0.68$, respectively, $p < 0.001$) and elderly ($r = 0.42$ and $r = 0.40$, respectively, $p = 0.001$). In

the older subjects, we also found that the antagonist muscle activated significantly earlier than the agonist muscle (-22 ± 55 ms, $p=0.003$).

Conclusion We conclude that in older persons, besides the previously reported increased antagonist muscle co-activation, also the muscle firing sequence is profoundly altered. This is characterized by a delayed muscle activation following stimulus onset and a significantly earlier recruitment of the antagonist muscle before movement onset.

4. Knee Osteoarthritis: dropouts from exercise programmes have more exercise-induced pain and worse health than retainers

David Beckwée, Peter Vaes, Thierry Scheerlinck, Ivan Bautmans

Purpose Exercise effectiveness is related to adherence, compliance and dropout. This study aims to investigate if exercise-induced pain and health status are related to these outcomes during exercise intervention.

Methods Symptomatic knee osteoarthritis (OA) patients were randomly allocated to a walking or strengthening programme ($N=19$ /group). At baseline, patients were categorized according to their health status. Exercise adherence and compliance were calculated and the dropout rate was registered. For exercise-induced pain, patients rated their pain on an 11-point numeric rating scale (NRS) before and after each training session. Before each session, the maximal perceived pain of the last 24 h (NRSmax24) was assessed. Patients rated their global self-perceived effect (GPE) on a 7-point ordinal scale after the intervention period.

Results Of the participants, 53% felt they improved after exercise, six patients dropped out. The mean adherence and compliance rates were $>80\%$ in both groups. Worse health and higher exercise-induced pain were seen in dropouts. NRSmax24 during the first 3 weeks did not significantly increase compared to baseline but correlated negatively with adherence during the home sessions (-0.56 , $p<0.05$). Lower adherence during supervised sessions was significantly related with higher pre-exercise pain scores ($\rho=-0.35$, $p<0.05$).

Conclusion Exercise does not exacerbate pain during the first weeks of training in knee OA patients. However, patients who drop out show a worse health condition and higher exercise-induced pain compared to patients that retained the programme. All future studies investigating the effects of exercise on knee OA should consider taking health status and exercise-induced pain as safety outcomes.

5. Memory palaces to improve quality of life in Alzheimer's disease (UPGRADE)

Kasper Bormans, Keith Roe

Purpose Dementia is the problem of the future. Scientists estimate a current population of 50 million people with dementia worldwide, and this amount will triple by 2050. Dementia is tough for the patient but even more burdensome for his surroundings. One of the main reasons is the loss of recognition and communicative connection. What if we can restore the dialogue that seems to evaporate? The objective

of our project is to examine whether the addition of (virtual) reality to communication strategies (Method of Loci, Face-Name Mnemonic) can improve the quality of life of early AD subjects and their significant others.

Methods Our study takes the "Method of Loci" to the next level. We designed an application that functions as an audio guide for people with early dementia. They are encouraged to actively walk a trajectory through their well-known environment (home/nursing home). Along the route, significant others are associated with specific reference points. Participants can make the walk on their own, but it is even more advantageous together with a carer. At each reference point, subjects are invited to tell positive stories about significant others.

Results The end result is a non-pharmacological intervention that promotes physical activity and positive storytelling. The tool restores a communicative connection, is very user-friendly and principles as "errorless-learning" and "freedom of choice" are integrated in the technology.

Conclusion We hypothesize that our intervention can boost the dialogue between early AD subjects and their surroundings. We expect to improve the quality of life of early AD subjects and their significant others.

6. Sterven met dementie in woonzorgcentra: relatie tussen kennis van ziektebeeld en kwaliteit van zorg

Ruth Botterman, Lieve Van den Block, Ruth Piers, An Vandervoort, Nele Van Den Noortgate

Doel De kennis van zorgverleners en naasten betreffende de diagnose en stadium van dementie bij bewoners uit WZC nagaan evenals de implicaties hiervan op de kwaliteit van zorg bij het levenseinde.

Methodologie Data uit een retrospectieve cross-sectionele studie (Dying Well with Dementia, 2010, L. Van Den Block) bij 241 overleden bewoners in een random geclusterde steekproef van 134 WZC in Vlaanderen. Het klinische oordeel van verpleegkundigen ($n=228$), artsen ($n=127$) en naasten ($n=224$) evenals de beoordeling van de Global Deterioration Scale (gouden standaard) en Cognitive Performance Scale werd onderzocht. Analyses gebeurden d.m.v. niet-parametrische testen, Interclass Correlation Coëfficiënts en ROC-curves (Statistic SPSS 21).

Resultaten Verpleegkundigen schatten de diagnose dementie correcter in dan artsen (OR=5,39, CI: 1,89–15,30). De stadiabepaling door de verpleegkundige correleert significant met de inschatting op de GDS 7 ($r=0,76$, CI: 0,69–0,83). Het klinisch oordeel van de arts ($r=0,64$, CI: 0,51–0,76) of het gebruik van de CPS 5 of 6 ($r=0,69$, CI: 0,62–0,77) is minder accuraat. De overeenkomst voor de stadia van dementie is significant tussen de zorgverleners en naasten (verpleging-arts: $p<0,001$; verpleging-naaste: $p<0,001$; naaste-arts: $p<0,050$). Er konden geen voorspellende factoren voor de overkomst tussen zorgverleners en naasten weerhouden worden. Er wordt geen significant verband gevonden voor de overeenkomst en communicatie rond zorgplanning of de kwaliteit van zorg bij het levenseinde.

Conclusie Het stadium van dementie wordt door zorgverleners en naasten op dezelfde manier ingeschat. Deze gelijklopende inschatting heeft geen implicaties op de communicatie rond zorgplanning of kwaliteit van zorg bij het levenseinde.

7. GUTS: a European project about generations using training for social inclusion

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University of Molise

Purpose Both older people and unemployed youngsters are at risk of being socially excluded from daily society. The GUTS project aims to combine the strengths of older people and youngster in order to learn from each other and improve their skills in facing daily problems in society. The paper at hand aims to (1) describe 10 innovative, intergenerational and co-creative learning projects, (2) explore the opportunities of cultural activities to facilitate new ways of intergenerational learning and (3) test the effects of cultural, co-creative, intergenerational learning on social exclusion of older adults and youngsters.

Methods On the one hand, a quantitative questionnaire is used at the beginning and the end of the project to investigate the perceptions of the participants (older people and youngsters) about how education can help people in their lives. In addition, ten qualitative focus group interviews took place to ask participants about their experiences with the project (e.g. expectations about the project, reasons to become involved, reasons to stay involved, reasons to quit).

Results The findings describe the development of ten innovative, intergenerational and co-creative learning projects and give an overview of the analysis of success factors (i.e. participatory approach from the start, involvement of older people and youngsters in the choice of cultural projects). The results also demonstrate that participation in these intergenerational projects increased social inclusion.

Conclusion The article concludes by discussing some recommendations for policy and practice in order to set up/develop co-creative, intergenerational learning projects.

8. Dé Vlaamse Zorg Proeftuin oudere bestaat niet

Charlotte Brys, Patricia De Vriendt, Ellen Gorus

Doel Het Zorg Proeftuinen programma beoogt innovaties in de ouderenzorg, met als hoofddoelstellingen: (1) ouderen zo lang mogelijk zelfstandig laten leven; (2) de thuisomgeving verbeteren en (3) vereenzaming tegengaan. Op zes platformen (PL) werden 23 projecten uitgerold. De ouderen spelen een cruciale rol als lid van het PL-panel. Deze groep is echter heterogeen met uiteenlopende kenmerken, noden en behoeften. Deze tussentijdse analyse beschrijft de karakteristieken van de ouderen binnen de PL-panels.

Methodologie Via de KIO-indicatoren vragenlijst, samengesteld uit gevalideerde schalen, wordt het profiel van de ouderen in kaart gebracht. Huidige resultaten gaan na in welke mate de PL-panelleden (1) afhankelijk zijn voor basale activiteiten van het dagelijkse leven (b-ADL), instrumentele ADL (i-ADL) en geavanceerde ADL (a-ADL); (2) ontevreden zijn over de woning en/of woonbuurt en (3) gevoelens van sociale en/of emotionele eenzaamheid ervaren. De spreidingsbreedte over de PL-panels heen wordt telkens weergegeven.

Resultaten De PL-panels ($N=71-385$) omvatten ouderen die nood hebben aan ondersteuning voor minstens één activiteit van het dagelijkse leven: 11,9–16,5% voor b-ADL en 64,2–83,6% voor i-ADL. 6,1–27,0% PL-panelleden voeren nooit fysieke, 4,9–20,3% nooit intellectuele en 11,8–27,9% nooit sociale activiteiten uit. 3,6–8,6% panelleden zijn ontevreden over de woning en 2,0–10,0% over de woonbuurt. Gevoelens van sociale (20,7–29,9%) en emotionele (11,7–24,6%) eenzaamheid worden ervaren.

Conclusie Een variëteit binnen en tussen de PL-panels is aanwezig. Dit is wenselijk in de opbouw van een aselect PL-panel. Een volgende stap is nagaan in welke mate het profiel van de geïncludeerde ouderen overeenstemt met de doelstellingen van de diverse innovaties binnen de projecten.

9. The effect of physical exercise on cellular immunosenescence: a systematic review

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R. Njemini, W. Renmans, M. Dewaele,
I. Bautmans

Purpose Aging affects negatively the immune system, defined as immunosenescence, which increases the susceptibility of elderly persons to infection, autoimmune disease and cancer. There are strong indications that physical exercise in elderly persons may prevent or slow down immunosenescence without significant side effects. The aim of this review was to appraise the existing evidence, regarding the impact of exercise on cellular immunosenescence.

Methods By screening the PubMed and Web of Science databases systematically, 28 potentially relevant articles in humans or animals were screened for relevant articles.

Results Most of the intervention studies demonstrated that an acute bout of exercise induced increases in senescent, naïve, memory CD4+ and CD8+ T-lymphocytes and significantly elevated apoptotic lymphocytes in peripheral blood. As regards long-term effects, exercise produced increased levels of T-lymphocytes expressing CD28+ in both young and elderly subjects. Few studies found an increase in natural killer cell activity following a period of training.

Conclusion Exercise has considerable effects on the cellular aspects of the immune system. However, very few studies have been conducted so far to investigate the effects of exercise on cellular immunosenescence in elderly persons. Implications for immunosenescence need further investigation.

10. Slimme technologie als alternatief voor fysieke fixatie (STAFF)

Virginie Carlassara, Ellen Lampo, Bart Degryse,
Chantal Van Audenhove, Nele Spruytte

Doel Het STAFF-project (2014–2016) onderzoekt in welke mate slimme technologie een alternatief kan vormen voor fysieke fixatie. Slimme technologie is omschreven als 'de koppeling tussen informatie-, communicatie-, diagnostische en gezondheidsmonitoringstechnologieën onderling (bv. bewegingsmelder gekoppeld aan oproepsysteem) ter ondersteuning van de zorg en het welzijn van de zorgbehoevende ten behoeve van een betere kwaliteit van leven en wonen.'

Methodologie Eerst belichten we de aanpak van het gehele STAFF-project, met name de realisatie van een survey-

bevraging, een interventiestudie in woonzorgcentra en de opbouw van een kennisplatform. Daarna presenteren we de bevindingen van de surveybevraging. Begin 2015 zijn via een online enquête medewerkers van woonzorgcentra bevraagd over hun visie en houding tegenover fysieke fixatie en slimme technologie. Er werkten 156 beleidsmedewerkers en 238 zorgpersoneelsleden mee aan de surveybevraging.

Resultaten In het algemeen is er een lage aanvaardbaarheid van fysieke fixatie, maar voor specifieke redenen tot gebruik of voor specifieke fixatiemiddelen is het beeld meer genuanceerd. Er is een hoge aanvaardbaarheid van het gebruik van het bedhekken, de diepe geriatrische zetel en de stoel met voorzettafel. Ongeveer de helft van het beleidspersoneel zegt slimme technologie toe te passen in het woonzorgcentrum. Een te hoge kostprijs en onaangepaste infrastructuur van het woonzorgcentrum zijn de belangrijkste redenen voor het (nog) niet toepassen van slimme technologie. Alle respondenten vinden meerdere strategieën belangrijk om te komen tot fixatie-arme zorg in de woonzorgcentra.

Conclusie Er is nog groeimarge in het verder terugdringen van fysieke fixatie in de Vlaamse woonzorgcentra met tegelijk een openheid naar de inzet van slimme technologie.

11. Multidimensional prognostic index is a feasible tool for early care planning in hospital

E. Cassiers, M. Van Esbroeck, A.M. De Cock

Introduction and Aim Multidimensional Prognostic Index (MPI) is a predictive tool evaluating individual mortality risk during intra-hospital stay in acute geriatric care. Identifying a mild (MPI 1), moderate (MPI 2) or severe (MPI 3) risk can be reflected into medical decision-making. The aim of this retrospective study was to determine whether the systematic use of the MPI scale in an acute geriatric ward was feasible. We questioned also the correlation of the blinded MPI result to the NTR coding and the association to sarcopenia evaluation potentials.

Methods Patients hospitalized in one month at two acute geriatric wards were evaluated using the MPI scales (SPMSQ, ESS, CIRS, activities of daily living (ADL), instrumental ADL (IADL), MNA, number of drugs and social status). Handgrip strength and NTR code (0= full reanimation to 3= comfort care) was recorded. Muscle mass was measured by bioelectrical impedance analysis and gait speed registered on a Gaitrite walkway.

Results Sixty-six patients out of 72 eligible subjects admitted were processed. In 82%, MPI could be completed, listing 11% in MPI 1, 52% in MPI 2 and 37% in MPI 3. Although NTR coding was progressively higher in the higher mortality risk groups, NTR 0 was still in force in 69% of the MPI 3 group. Physical fitness correlated with MPI. Only handgrip strength correlated significantly with MPI groups ($p=0.005$).

Conclusion MPI score is feasible and identifies the majority of patients as moderate and high risk. Present care planning policy is not in line with predicted mortality risk. Handgrip strength and survival are correlated.

12. Is intraveneus ijzer voor ferriprivee anemie bij ouderen zinloos?

Ilse Casteleyn, Etienne Joosten

Doel Het effect van ijzersubstitutie op het hemoglobinegehalte, transferrine, transferrinesaturatie en ferritine bestuderen. Ferriprivee anemie wordt namelijk courant behandeld met intraveneus ijzer. De evidentie omtrent de efficiëntie bij de geriatrische populatie is echter schaars.

Methodologie In deze retrospectieve observationele studie werden 26 van de 95 patiënten geïncludeerd die zich aanboden op het geriatrisch dagcentrum voor toediening van intraveneus ijzer in de periode van januari 2007 tot juni 2014. Patiënten die tijdens de toediening of de opvolging bloedtransfusies kregen werden geëxcludeerd. Hemoglobinegehalte en ijzerset bij aanvang werd gecorrigeerd aan de meting na 2 weken tot 3 maand en/of na 3 maand tot 1 jaar na de toediening. De totale dosis ijzersubstitutie schommelt tussen 600–1500 mg, waarbij de dosis moet voldoen aan de Ganzoniformule.

Resultaten Met de ANOVA analysis of variance werd er een niet-significante stijging van het hemoglobinegehalte van 9,8 g/dl naar 11,1 g/dl ($p=0,114$, CI $[-0,221-2,839]$); en begeleidende stijging van transferrinesaturatie van 8,5% naar 19% ($p<0,001$, $[5,660-16,977]$) met stijging van ferritine van 28 naar 178 mg/L ($p<0,001$, $[60,180-239,989]$) gezien in de periode van 2 weken tot 3 maand na toediening. Tussen de beginwaarden en de meting na 3 maand is er geen significant verschil voor hemoglobine ($p=0,549$), transferrinesaturatie ($p=0,138$) en ferritine ($p=0,161$); evenals tussen de metingen tussen 2 weken tot 3 maand en de meting na 3 maand.

Conclusie Er is een tijdelijke effect op de ijzerstatus en het hemoglobine; na 3 maand is dit echter verwaarloosbaar ten opzichte van de uitgangswaarden.

13. Integratie van levenseindezorg in de Vlaamse woonzorgcentra

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Anja Declercq, Luc Deliens, Joachim Cohen,
Chantal Van Audenhove

Doel Een aanzienlijk aandeel van de ouderen verblijft tijdens zijn laatste levensjaren in een woonzorgcentrum en sterft er vaak ook. Hoewel woonzorgcentra erkend zijn als betekenisvolle plaatsen voor levenseindezorg, toont onderzoek aan dat er grote variatie is in de kwaliteit van levenseindezorg. Een gebrek aan samenwerking tussen verschillende (zorg)organisaties is één van de oorzaken van deze suboptimale zorgkwaliteit. Deze studie wil nagaan hoe de kwaliteit van levenseindezorg in de Vlaamse woonzorgcentra kan worden geoptimaliseerd door een betere samenwerking met thuiszorgdiensten en ziekenhuizen.

Methodologie Op basis van vragenlijstonderzoek, aangevuld met focusgroepen, wordt eerst de huidige samenwerking tussen de woonzorgcentra, thuiszorgdiensten en ziekenhuizen binnen de 15 palliatieve netwerken in Vlaanderen in kaart gebracht. Gebaseerd op deze resultaten en een literatuurstudie, wordt een complexe interventie ontwikkeld en geëvalueerd (MRC fase 0, 1 en 2) om deze samenwerking te optimaliseren.

Beoogde Resultaten De ontwikkelde interventie zal bijdragen tot een betere samenwerking binnen de levenseindezorg voor ouderen in Vlaanderen. Deze geoptimaliseerde samenwerking moet op termijn leiden tot een daling van onnodige hospitalisaties, vermindering van dubbel werk voor de zorgprofessionals en een betere kwaliteit van zorg en leven voor oudere palliatieve patiënten.

Conclusie Het onderzoek zal leiden tot concrete aanbevelingen voor het beleid en de praktijk van samenwerking rond levenseindezorg in de palliatieve netwerken.

14. Seven years of inpatient geriatric consultation in Belgium: a SWOT analysis and recommendations for policymakers and clinical practice

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Bastiaan Van Grootven, Koen Van den Heede,
Patriek Mistiaen, Lut Mergaert, François Daue,
Alain Denis

kMethods A three-stage strengths-weaknesses-opportunities-threats (SWOT) analysis was performed. Phase 1: Semi-structured interviews ($n=12$) with IGCT members, professional caregivers of non-geriatric units and hospital managers were performed. Phase 2: Four focus groups were held to develop a preliminary SWOT analysis. A purposive sample of stakeholders ($n=40$) was recruited, balanced for hospital type, gender and language region. Phase 3: Two additional focus groups were performed to consolidate, further interpret, link and prioritize the SWOT items. *Results* Consensus on the following key strengths of IGCTs emerged, namely impact on patients/family/informal caregivers, on care processes/quality, on discharge/readmission, dissemination of geriatric culture/expertise and an interdisciplinary/holistic approach. Essential weaknesses are the shortage of resources (financial/staff/time), the solely advisory IGCT role and resistance of non-geriatric units. Opportunities include knowledge transfer and awareness raising, cooperation with primary/transmural care, digitalization, improved matching of patients' needs and services, IGCT sustainability/stability and demonstrating IGCTs added value. Perceived threats include lack of recognition and support and demotivation. The shortage of a geriatric-trained workforce and population ageing are both a weakness and threat.

Conclusion This study provided comprehensive insights into leverages and barriers for IGCT functioning and resulted in policy-, hospital- and IGCT-oriented recommendations to improve IGCTs' effectiveness in the Belgian context. For example, establishing knowledge-sharing platforms to diffuse innovations and good practices for inpatient geriatric care is essential. Financial statement: This study was funded by the Belgian Healthcare Knowledge Center (KCE).

15. Nursing home staff's perception of meaningful activities for residents: an analysis of focus groups

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Valerie Desmet, Ellen Gorus, Lien Van Malderen,
Dominique Van De Velde, Patricia De Vriendt

Introduction Meaningful activities of daily living (MADL) are essential to promote the identity and quality of life of nursing home residents (NHR). MADL offer a daily rhythm, stimulate social interaction and positively affect autonomy and well-being. Nevertheless, an admission in a nursing home (NH) involves a loss of MADL. Therefore, NHs are expected to offer a range of activities, but often, they do not fulfil the needs of NHR. This study explored the perception of NH staff about the realization of MADL for residents.

Methods This qualitative study used eight semi-structured multidisciplinary focus groups, including occupational therapists ($n=21$), nurse assistants ($n=20$), recreational therapists ($n=20$) and NH-managers ($n=5$). All interviews were audiotaped and coded line-by-line. Data were analysed by an open-minded approach and clustered on the basis of similar content.

Results MADL can evolve in time and are strongly related to changing abilities of NHR. MADL is perceived as a dynamic concept which needs consequent and continuous monitoring. Nevertheless, MADL were mostly organized spontaneously, relying on the "gut feeling" of the NH staff. The realization of MADL was perceived as time-consuming. An achievable, well-structured approach to identify, realize and monitor MADL was lacking. It appeared crucial to know the life history, needs, wishes and capacities of NHR. However, NHs do not have protocols to enhance MADL, neither they used tools to evaluate and improve MADL.

Conclusion This study indicated the need for a practical and interdisciplinary guidance to identify the needs of NHR concerning MADL and to enhance the realization of MADL in a more structured manner.

16. Community occupational therapy to improve functioning in physical frail older people: a systematic review

Leen De Coninck, Geertruida Bekkering,
Leen Bouckaert, Anja Declerck, Maud Graff,
Bert Aertgeerts

Purpose Living safely and independently is a priority goal. The provision of high-quality home care services results in a decrease in the number of admissions in hospitals and residential care centres. Occupational therapists are specifically trained to facilitate the independent living and participation of older persons. The purpose of this systematic review is to assess the effectiveness of occupational therapy interventions—either as mono-disciplinary intervention or as part of a multidisciplinary approach—for community-dwelling physically frail older people on the outcomes activity and participation.

Method Electronic databases were searched for original studies. This systematic review was carried out in accordance with the EPOC and Cochrane guidelines. Study selection and quality appraisal were done independently by two authors. Meta-analyses were performed to pool results across studies.

Results We included eight studies. There was a significant improvement in the intervention group versus the control group in the outcomes function in activities of daily living (ADL), participation and mobility. There was also a significant improvement in the secondary outcome fear of falling. There was no effect on the other secondary outcomes. No adverse effects of occupational therapy were found.

Conclusion Occupational therapy, as mono-disciplinary intervention or as part of a multidisciplinary approach, has an effect on maintaining functionality and participation in community-dwelling physical frail older people. Further research is required to elucidate the barriers, facilitators and preconditions for implementing such a complex approach and to clarify if the healthcare structure meets the preconditions.

17. Home care projects in Belgium: what are their effects on frail older persons' outcomes?

Johanna De Almeida Mello, Anja Declercq,
Sophie Cès, Thérèse Van Durme,
Chantal Van Audenhove Chantal, Jean Macq

Objective To present the initial results of the effects of home care interventions on frail older persons' outcomes such as institutionalization and physical functioning.

Methods This study uses data from the interRAI Home Care (HC) instrument and from a national registry database called CIN-IMA. Poisson regression models and logistic regression models were constructed for each type of project compared to the control group in order to evaluate the impact of the interventions.

Results The population of the study consists of 8600 clients (80.8 ± 6.4 , 64.5% female). The projects showing the most effects were occupational therapy and projects offering multicomponent interventions such as case management in combination with occupational therapy and psychosocial support or rehabilitation services. Other types of projects were less effective.

Conclusion This research broadens the understanding of the effects of different types of community care interventions for frail older persons. In this study, the use of a comprehensive geriatric assessment such as the interRAI HC made it possible to stratify the population according to impairment levels and to find a suitable matching strategy to be applied to the control group.

18. Handgrip strength as screening tool for cognition, depression and functional status in elder people: a cross-sectional and longitudinal analysis

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Joke M. Rijk, Laura Deckx, Doris L. van Abbema,
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Purpose It is important to monitor ageing people for general prognosis and vulnerability, but the available methods are not accurate enough or too time-consuming for general

practice. Handgrip strength may be an easy measurement to be used as a screening tool.

Methods We analysed 642 participants, aged 70 or older, of the project on older cancer patients in Belgium and the Netherlands (KLIMOP) cohort. We evaluated the relation between baseline handgrip strength and the Mini Mental State Examination for cognition, 15-item Geriatric Depression Scale for depression, Katz-score for activities of daily living (ADL), and Lawton-score for instrumental ADL (IADL) at baseline and after 1 year of follow-up using multivariate logistic regression analyses.

Results By the time of the Wintermeeting, we will present the results from the KLIMOP study. Cross-sectional and longitudinal results (baseline and 1 year follow-up) will be presented, focussing on the association between handgrip strength and cognitive impairment, depression, ADL impairment and IADL impairment of older persons with and without cancer.

Conclusion Based on the results of the KLIMOP cohort, we will evaluate if handgrip strength might be of value in the evaluation of older patients with respect to vulnerability.

19. Comparison of two risk-screening tools for adverse drug reactions in older inpatients

Stefanie De Buyser, Mirko Petrovic, Tischa van der Cammen, Chakravarthi Rajkumar, Balamurugan Tangiisuran, Graziano Onder

Purpose Adverse drug reactions (ADRs) are common in hospital setting, especially in older patients. Both the GerontoNet ADR risk score and the Brighton ADRs Risk (BADRI) model aim to identify hospitalized older patients at risk of ADRs. The objective of this study is to compare these ADR risk-screening tools in terms of their ability to predict ADRs in hospitalized older patients.

Methods The CRITERIA to assess appropriate Medication use among Elderly complex patients (CRIME) project enrolled 1123 older patients, consecutively admitted to geriatric and internal medicine acute care wards of seven Italian hospitals. The GerontoNet ADR risk score and a condensed BADRI score were calculated for 1075 patients. Only ADRs with definite or probable causality with drug use (defined according to the Naranjo algorithm) were considered for this study. Areas under the receiver operator characteristic curves (AUROCs) were used to evaluate the predictive ability of the ADR risk tools.

Results Median age was 81.4 ± 7.4 years. Overall, 41 patients (3.8%) experienced at least one ADR that was definitely or probably caused by drugs during hospital stay. Both ADR risk-screening tools had low accuracy scores for predicting ADRs (AUROC GerontoNet = 0.64 (95% CI = 0.61–0.67), AUROC BADRI = 0.63 (95% CI = 0.61–0.66) with no significant difference between them ($P = 0.874$).

Conclusion Neither the GerontoNet ADR risk score nor the BADRI model performs to a sufficiently high level of discrimination efficacy for ADRs. Further research might identify additional ADR risk factors to extend and improve these ADR risk-screening tools.

20. Validation of the FNIH sarcopenia criteria and SOF frailty index as predictors for long-term mortality in ambulatory older men

Stefanie De Buyser, Mirko Petrovic, Youri Taes,
Kaatje Toye, Jean-Marc Kaufman,
Stefan Goemaere, Bruno Lapauw

Purpose To evaluate the "Foundation for the National Institutes of Health" (FNIH) cut-off points for weakness and low muscle mass and the "Study of Osteoporotic Fractures" (SOF) index for frailty in terms of their ability to predict all-cause mortality in older community-dwelling men in Belgium.

Methods This community-based cohort study included ambulatory men aged ≥ 74 years living in the community of Merelbeke. Weakness and low muscle mass were assessed in 200 men according to the FNIH criteria (grip strength < 26 kg and appendicular lean mass (ALM) to body mass index (BMI) ratio < 0.789 , respectively). Frailty status was assessed in 198 men using the components of weight loss, inability to rise from a chair and poor energy (SOF index). Survival time was calculated as the number of months from assessment in 2000 until death or up to 15 years of follow-up.

Results Mean age of participants was 78.5 ± 3.5 years. The combination of weakness and low muscle mass was present in 9% of men, while frailty was present in 7% of men. After 15 years of follow-up, 180 men (87%) died. Both the presence of combined weakness and low ALM to BMI ratio (hazard ratio (HR) = 2.46, 95% CI = 1.35–4.50) as well as the presence of SOF frailty (HR = 2.58, 95% CI = 1.41–4.74) were associated with over twofold higher hazards of mortality.

Conclusion Our findings confirm the predictive value for mortality of the FNIH criteria and SOF index in older community-dwelling Belgian men. Both instruments have a non-distribution-based character, which might facilitate their implementation in clinical practice, since the establishment of a reference population is not required.

21. Longitudinal study on quantitative gait measures in neurodegenerative cognitive disorders in older persons: protocol outline

Anne-Marie De Cock, Maurits Vandewoude

Aim Definitions and guidelines of Alzheimer's, Lewy body or fronto-temporal dementia do not refer to mobility as a possible biomarker. However, gait analysis research indicates that gait changes occur early in the dementia process and might have a prognostic significance. Set up of a longitudinal study to define gait characteristics in different cognitive neurodegenerative disorders thereby create a differential diagnostic pattern for dementia in older persons.

Method All +50-year-old patients of the Memory Clinic were included. They underwent a full cognitive test battery and physical evaluation. Parameters collected at baseline were demographic, social and disability items (activities of daily living (ADL), instrumental ADL (IADL), TCST), cognitive tests (MMSE, ACE-R), dementia diagnosis, medication, body composition (Brussels integrated activities of daily living scale, BIA), lab test (nutrition, hormonal status) and quantitative gait measures. A prerequisite was that they could walk 10 m without a walking aid at baseline

and retest at 6, 10, 14 and 18 months. Retests contained demographics, social items and cognitive tests.

Results Between April 2010 and October 2015, 857 possible participants were selected. A total of 550 persons were included (64.2% of the population), 66% female, mean age 79 years, mean MMSE 23.4 ± 4.8 . Exclusion was due to severe dementia, gait only possible with walking aid, language barrier or young age. Interim results showed 52% of the retests were available after 6 months. After 18 months, 143 persons (26%) were still in follow-up.

Conclusion A relevant sample was obtained for processing on predictive value of gait measures in people with cognitive complaints and defining a new biomarker on neurodegenerative cognitive disease.

22. OLD@HOME. Verbeteren van functionaliteit van de kwetsbare oudere door ergotherapie aan huis

Leen De Coninck, Geertruida Bekkering,
Leen Bouckaert, Anja Declerck, Maud Graff,
Bert Aertgeerts

Doel Voorzien van kwaliteitsvolle thuiszorg resulteert in een afname van het aantal opnames in ziekenhuizen en woonzorgcentra. Ergotherapeuten zijn specifiek getraind om het zelfstandig leven van ouderen te faciliteren en de participatie te doen toenemen. Dit onderzoek heeft tot doel een ergotherapeutisch behandelingsprotocol als facet van een multidisciplinaire aanpak te ontwikkelen voor de thuiswonende fysiek kwetsbare oudere.

Methodologie De outcome van een systematische review werd de basis voor het opstellen van een kwaliteitsvol ergotherapeutisch behandelingsprotocol. De outcome van het kwalitatief onderzoek, in de vorm van semi-gestructureerde interviews, werd gebruikt om dit basisprotocol aan de Vlaamse context aan te passen.

Resultaten Acht studies werden geïncludeerd in de systematische review. Er was in de interventiegroep tegenover de controlegroep een significante verbetering voor alle primaire uitkomstmaten (ADL, participatie en mobiliteit). Kenmerken van de ergotherapeutische behandeling zijn cliëntgerichtheid, empowerment, informeren/educeren betekenisvol handelen en samenwerking. - Kwalitatief onderzoek geeft aan dat de ondersteuning die ouderen verkiezen bij functionaliiteitsproblemen individueel zeer verschillend is en dat ouderen algemeen tevreden zijn omtrent hun situatie. Bevraging van hulpverleners toont een bereidheid tot samenwerking aan en geeft aan dat er tussen beroepsgroepen een discrepantie is in beschikbare middelen om deze samenwerking te ondersteunen.

Conclusie Ergotherapie heeft een effect op het behoud van de functionaliteit en de participatie van fysiek kwetsbare ouderen. Structurele obstakels dienen weggewerkt te worden om het ergotherapeutisch behandelingsprotocol optimaal te implementeren in de klinische praktijk in Vlaanderen.

23. Comparison of the fatigue resistance obtained by two instruments and simultaneous sEMG in adult subjects

L. De Dobbeleer, I. Beyer, O. Louis, M. Moreira,
J. Cabri, T. Mets, I. Bautmans

Objectives The fatigue resistance (FR) test—the time during which grip strength drops to 50% of its maximum during sustained contraction—is an objective evaluation of muscle fatigue and was validated with the Martin vigorimeter (VM). However, the Jamar dynamometer (JD) is frequently used to measure the grip strength. It remains unclear whether muscle fatigue is similar when FR is measured with both devices.

Methods Fifty-four community-dwelling people (29 female and 25 male, mean aged 40.0 ± 18.1 years) were tested for FR with both devices. Agonist and antagonist muscle activity were simultaneously recorded by sEMG.

Results During the FR test, antagonist muscle co-activation was significantly higher for VM compared to JD. In contrast, the agonist muscle activation level was significantly higher in JD compared to VM. At the end of the FR test with VM, both the agonist and antagonist muscle activation decreased significantly (from 100% to $63 \pm 21\%$ and from $45 \pm 13\%$ to $34 \pm 19\%$, respectively, all $p < 0.05$), whereas when using the JD, only a significant decrease in the antagonist muscle co-activation was observed (from $9 \pm 3\%$ to $8 \pm 3\%$, $p < 0.05$). FR was significantly longer when measured with VM compared to JD (62 ± 26 s vs. 32 ± 15 s, $p < 0.05$). The difference in antagonist muscle co-activation between VM and JD was significantly related ($r = 0.30$, $p < 0.05$) to the difference in FR between both devices.

Conclusion The results suggest the FR test when using the VM induces a more prominent muscle exhaustion than when using the JD, suggesting the VM might be more suitable for measuring muscle FR.

24. Comparison of the fatigue resistance obtained by the Martin vigorimeter and the Jamar dynamometer in adult subjects

L. De Dobbeleer, I. Beyer, O. Louis, M. Moreira, J. Cabri, T. Mets, I. Bautmans

Objectives Recently, we have introduced, refined and validated the fatigue resistance (FR) test—defined as the time during which grip strength drops to 50% of its maximum during sustained contraction—to objectively measure the exhaustion component of frailty in the aged. The test has been validated for the Martin vigorimeter (VM). However, many researchers and clinicians are using the Jamar dynamometer (JD). To date, no data regarding the FR test measured with the JD are available, thus limiting the implementation of the test.

Methods Ninety-four apparently healthy community-dwelling persons (52 female and 42 male; aged 46 ± 20 years) were studied. On the same day in a random order with at least 1-h interval between both tests, the FR of the dominant hand was recorded with VM and JD.

Results Overall, FR scores obtained with VM and JD were significantly correlated ($r = 0.53$, $p < 0.001$), but FR was significantly better when measured with VM compared to JD (67.3 ± 33.6 s vs. 34.4 ± 21.2 s in female and 67.9 ± 28.6 s vs. 37.1 ± 20.7 s in male; all $p < 0.05$).

Conclusion Our results show that FR scores are significantly correlated when measured with both devices but are on average twice as high when obtained with VM compared to JD.

25. Deprescribing psychoactive medication for geriatric patients in a multidisciplinary way

Pieter Jan De Jonghe, Veronique Ghekiere, Dimphny Kindt, Anne Verhaeghe, Kathy Verhelle

Aim Benzodiazepines and/or the combination with other psychoactive medication increase the risk for confusion, falls, cognitive impairment, disturbed coordination.... Our goal is to guard the safety and quality of life for geriatric patients with polymedication by reducing the use of psychoactive medication within a multidisciplinary team.

Methods Medication of geriatric patients is screened, the inclusion criteria are (1) a contra-indication for benzodiazepines (chronic obstructive pulmonary disease (COPD), asthma, myasthenia gravis and sleep apnoea), (2) a minimal dose equivalent of 20 mg diazepam and/or (3) a pharmacodynamic synergistic interaction (antidepressants, antipsychotics, anticholinergics, sedative antihistaminics and opioids). The patient will be informed about the possible risks of his psychoactive medication, and if he agrees, the geriatrician and general practitioner (GP) are contacted to decide which medication to reduce in which order and to confirm the reduction schedule.

Results The project included 440 patients, 57% of them had taken benzodiazepines. In 29% of the cases, psychoactive medication was reduced. A multidisciplinary workflow and some practical tools, which can be used by any doctor or pharmacist, were developed to succeed the follow-up of the patient beyond discharge. Clear communication within all disciplines was optimized by integrating all information in the electronic patient record (EPR).

Conclusion Deprescribing psychoactive medication for elderly people can successfully be implemented by the development of a multidisciplinary workflow (nurse-specialist, GP-clinical, and home pharmacist-patient and/or other caregiver) and by providing some practical tools in the EPR. Patient safety could be achieved and led to satisfaction of patients and involved caregivers.

26. De visie van huisartsen op CVA ketenzorg

Martijn Schoenaers Martijn, Thomas Ecker, Fredrik Braem, Yanni Vanrompay, Walter Sermeus, Jan De Lepeleire

Doel Exploreren van de visie van huisartsen inzake de huidige chronische CVA-zorg. Daarnaast wordt hun idee over het Nederlandse CVA-ketenzorgmodel en de mogelijkheden van de implementatie daarvan in België bevestigd.

Methodologie Via semigestructureerde interviews bij een doelgerichte steekproef van huisartsen in Limburg, werden kwalitatieve data bekomen die thematische werden geanalyseerd.

Resultaten De tien bevestigde huisartsen zijn tevreden met de huidige, chronische CVA-zorg. Er is wel nood aan meer gestructureerd overleg en een betere integratie van het elektronisch medisch dossier. Ook qua communicatie zijn er een aantal verbeterpunten mogelijk, zowel binnen de eerstelijnszorg als tussen de eerste en tweede lijn. De huidige CVA-zorg in België is op maat van de patiënt. Initiatieven om een ketenzorgmodel uit te werken, stuiten op weerstand, voornamelijk omwille van de complexe orga-

nisatie van de zorgsector en de arbeids- en tijdsintensieve belasting voor de huisarts.

Conclusie De bevroagde huisartsen hechten minder waarde aan het CVA-ketenmodel dan verwacht. Meer interprofessioneel overleg is essentieel. Het Belgische maatwerk vervangen door een Nederlands standaardtraject lijkt moeilijk.

27. De zorg voor patiënten met dementie: visie van de huisarts

Nathalie Heylen, Bieke Van Hout, Gwennie Dewolf, Jan De Lepeleire

Doel Het doel van deze studie is het exploreren van hindernissen die huisartsen ondervinden bij de ziekte- en zorgdiagnostiek van dementie en bij de zorg voor de mantelzorger van personen met dementie.

Methodologie Er werden drie focusgroepen met huisartsen ($n=35$) georganiseerd in de regio Zuiderkempen in de periode maart – april 2015. Acht stellingen aangaande de ziekte- en zorgdiagnostiek en de zorg voor de mantelzorger werden besproken. De data werden thematisch geanalyseerd en separaat gecodeerd door drie onderzoekers.

Resultaten De huisartsen vinden zowel vroegdiagnose als de mededeling van de diagnose van dementie belangrijk in functie van de omkadering van de zorg. Toch is er angst voor het opwekken van negatieve gevoelens. De huisartsen stellen de diagnose en coördineren de zorg. Indien verdere oppuntstelling van diagnose en therapie nodig is, wordt verwezen naar een specialist. Men staat kritisch tegenover subtypering en medicamenteuze behandeling. Multidisciplinair overleg, eventueel onder leiding van een case-manager, is nuttig. In de ondersteuning van mantelzorgers, gaat de voorkeur uit naar luisteren en ondersteunen bij concrete noden. Er bestaat geen ensgezindheid over de al dan niet pro-actieve rol van de huisarts in de zorg voor personen met dementie. Over de verschillende elementen bestaan zeer uiteenlopende meningen.

Conclusie De hindernissen voor huisartsen inzake de zorg voor dementerenden bestaan uit de angst voor oproepen van negatieve gevoelens, het therapeutisch nihilisme en het evalueren van problemen bij de mantelzorger.

28. A systematic review of neuropsychological screening instruments for the early detection of Alzheimer's disease

Ellen De Roeck, Sebastiaan Engelborghs, Eva Dierix

Purpose The objective of this study was (1) to give an overview of the available short screening instruments for the early detection of Alzheimer disease and (2) to review the psychometric properties of these instruments.

Method First, a systematic search of titles and abstracts of PubMed and Web of Science was conducted. All full-text articles about cognitive screening instruments for the early detection of Alzheimer's disease written in English or Dutch were included, resulting in the identification of 30 pen and paper tests and 15 computer tests. In a second step, the psychometric quality of these instruments was evaluated. Therefore, the same databases were searched

again to identify articles in English with clear diagnostic criteria that described the psychometric properties of the instruments.

Results Out of 1033 papers, 89 were selected that clearly discussed the psychometric properties of the instruments. Seventy-five papers discussed pen and paper tests of which 67 were validated in a memory clinic setting. For the pen and paper tests, the Montreal cognitive assessment (30 papers), Addenbrooke's cognitive examination (7 papers), and 7 min screen (4 papers) were mostly studied. For computer tests, validation studies were only available for 6 out of 15 tests.

Conclusion There are a large number of available screening tests for Alzheimer's disease. However, most tests are only validated in a memory clinic setting, and research focusing on the psychometric properties of the instruments is limited. Especially computer tests need further research.

29. Stepwise development of a multidisciplinary client-centred approach to enable meaningful activities in daily living in nursing homes

Patricia De Vriendt, Valerie Desmet, Ruben Vanbosseghem, Lien Van Malderen, Ellen Gorus, Dominique Van de Velde, Elise Cornelis

Purpose of the Study Engagement of nursing home residents (NHR) in meaningful activities of daily living (MADL) enhances autonomy and quality of life. This project aimed to develop an approach to identify and enable NHR's needs for MADL.

Methods The approach was developed based on Campbell's (2008) "framework for design and evaluation of complex interventions to improve health care" including (1) a qualitative study with 15 NHR exploring their MADL needs, (2) a survey with 143 NHR determining the components of a new MADL approach, (3) a qualitative analysis of 21 "good practices", (4) six focus groups with different stakeholders (nurses, management, activity coaches, occupational therapists; $n=69$) to identify their visions on MADL to support implementation, (5) a systematic review on interventions to enrich MADL and finally (6) the development/evaluation of a new approach in one living lab examining the feasibility, benefits for NHR and acceptability for the staff.

Results A client- and activity-oriented approach was developed, characterized by an active participatory attitude of NHR and caregivers. Based on a systematic therapeutic process, four phases are distinguished, from an initial "getting to know each other", over an all-encompassing evaluation of the wishes, desires, priorities and facilitating and inhibiting factors. After cataloguing the resources and strengths of the NHR, a plan to enable NHR-preferred MADL can be developed.

Conclusion This promising empowering approach needs to be further examined in a RCT to evaluate its outcome and implementation potentials. This approach guides nursing homes (NHs) to develop a creative and innovative attitude towards NHR's MADL.

30. A pilot study: a client-centred approach to enable meaningful activities in daily living in nursing homes

Patricia De Vriendt, Valerie Desmet, Ruben Vanbosseghem, Dirk Demeester, Anja Bayens, Laurine Peeters, Valérie Van houcke, Mirko Petrovic, Elise Cornelis

Purpose of the Study Engagement of nursing home residents (NHR) in meaningful activities of daily living (MADL) enhances their autonomy and quality of life (QoL), but this is in reality barely not the case.

Method Therefore, this project aimed to test a client-centred and activity-oriented approach, characterized by an active participatory attitude of NHR and caregivers, based on a systematic therapeutic process, including four phases, from an initial “getting to know each other”, over an all-encompassing evaluation of the wishes, desires, priorities and facilitating and inhibiting factors. After cataloguing the resources and strengths of the NHR, it allows the development of a creative and innovative plan to enable NHR-preferred MADL.

Methods The pilot study (with pre- and post-test) included 24 cognitively healthy NHR (6 men, 18 women; mean age 87 years standard deviation (SD) 4.81; mean length of stay 40 months SD 42.68). Outcome measures were QoL, number of MADL, self-perceived performance, satisfaction, challenge, quality of the activities, participation and social contacts. Additionally all NHR and professionals were interviewed to perform a process evaluation.

Results Outcome measures improved, although not all of them significantly. Only the number of MADL ($p < 0.001$), the quality of the activities ($p < 0.001$) and social contacts ($p < 0.05$) did; participation showed a trend ($p = 0.057$). NHR pointed out that social contacts were improved. Professionals mentioned more initiative from the NHR themselves.

Conclusion This promising empowering approach needs to be further examined in a RCT to evaluate its outcome and implementation potentials. This approach might guide NH in a supportive attitude towards NHR's MADL.

31. Multidrug resistant organisms (MDROs) and geriatric revalidation: first insights in hand disinfection (HD)—a huge challenge

Julien Dekoninck, Hilde Baeyens, Ann Piette, John Ryckaert, Jean Pierre Baeyens

Objectives Correct HD is the basis for prevention of MDRO transmission: measurement of the effect of HD in geriatric patients and documentation of the bacterial load during mealtime/revalidation.

Methods HD and four measurements (M1-4) are done by a dedicated nurse on bacteriological agar: tolerability/count of colony-forming units (CFU) and culture of potential MDRO. Chronologically: hygienic care/disinfection/M1/group-breakfast/M2/disinfection/M3/group-revalidation/M4. An extra disinfection during revalidation is also done by the therapist in some cases without specific instructions. Comorbidity and cognitive and functional status are collected.

Results Forty patients (84.4 ± 6 years, 10 men) with high comorbidity index (Charlson index 4.5 ± 3.2), physical decline

(Barthel index 11.6 ± 5 ; UGS 0.33 ± 0.2 m/s; handgrip strength 36.3 ± 16.6 kPa) and cognitive impairment (MMSE 21.5 ± 6.8 ; 75% incorrect meander of Luria; Global Deterioration Scale 3.98 ± 1.5) are included. After disinfection (M1+ M3), there are significantly more tolerable results than after breakfast/revalidation (M2+ M4), $31 + 35/40$ versus $3 + 8/40$ tolerable CFUs. However, handgrip strength < 45 kPa is near significantly associated with less disinfection ($P = 0.061$) in M1: All nine intolerable results are from patients with handgrip strength < 45 kPa. Also only 1 of 15 patients with GDS < 3 has a intolerable result versus 8 of 25 with GDS ≥ 4 ($P = 0.063$). The patients who were extra disinfected by the therapist during revalidation have a better result at M4 ($P = 0.018$), as well as having a normal meander ($P = 0.01$). Presence of open wounds is near significantly associated with a higher colonization of potential MDROs ($P = 0.052$).

Conclusion Disinfection works. Recolonization appears quickly after breakfast/revalidation. Special care is needed for patients with handgrip strength < 45 kPa, GDS ≥ 4 , open wounds. A normal meander is relatively protective for recolonization.

32. Implementation of geriatric consultation teams (GCTs) in acute hospitals in three European countries

Mieke Deschodt, Veerle Claes, Bastiaan Van Grootven, Koen Van den Heede, Benoit Boland, Johan Flamaing, Koen Milisen

Objective To understand how implementation of multidisciplinary GCTs on non-geriatric hospital units was facilitated in the Netherlands, France and Belgium.

Methods Scoping review and cross-sectional survey.

Results GCT implementation was supported through a Senior Friendly Hospital (SFH) Quality Label in the Netherlands and legislation in France and Belgium. Forty-six (47%) hospitals in the Netherlands were awarded the Quality Label in 2013, and 82 (83%) had a GCT. The majority ($n = 56$, 68%) of the GCTs scored 75% on the GCT criterion, a minimal standard for SFH eligibility. The Dutch National Society for Clinical Geriatrics specifies different ways to implement consultation-based interventions. In 2002, the Ministry of Health in France decreed on the Geriatric Care Network (GCN) for better elderly management, stating that the GCN should consist out of a GCT and a geriatric unit, short-stay unit, day hospital and rehabilitation unit. It also regulated GCT activities and provided the possibility for out of hospital consultation. In 2011, 216 French public acute care hospitals (31%) had a GCT. In Belgium, a Care Program for Older Hospitalized Patients was published in 2007: Acute hospitals should have an acute geriatric hospitalization ward, outpatient's clinic, day care hospital, a GCT and an external liaison service. Over 90% of Belgian acute hospitals have a GCT. Structural financing for GCT activities is provided since 2013.

Conclusion Although a heterogeneous approach for patient screening, assessment and follow-up was observed, legislation and quality labels were facilitators to promote GCT implementation on a national level.

33. Het effect van persoonsgerichte zorg op agitatie bij bewoners met dementie in een woonzorgcentrum.

Karl Devreese, Ellen Gorus, Patricia De Vriendt

Doel Door middel van quasi-experimenteel onderzoek in een woonzorgcentrum (WZC) werd nagegaan of het hanteren van persoonsgerichte zorg (PGZ) positieve effecten heeft op het agitatie-niveau bij personen met dementie (PmD), alsook op hun levenskwaliteit, het aantal en ernst van neuropsychiatrische stoornissen (NPS), hun welbevinden en de mate van betrokken gedrag. Bij de medewerkers (MW) werd het effect onderzocht op de mate van persoonsgericht werken, arbeidstevredenheid, self-efficacy en zorgbelasting.

Methodologie Na randomisatie werd 1 afdeling van het WZC als experimentele afdeling (EA) toegewezen. Alle MW van de EA pasten PGZ, na intense training, gedurende 2 maanden, toe tijdens hun dagelijkse begeleiding van PmD. Op de controleafdeling werd de gewone zorg aangeboden. Alle uitkomstmaten bij zowel de PmD als bij de MW werden verzameld tijdens de nulmeting, na 2 maanden (T2) én na 4 maanden (T3).

Resultaten Op T3 werd in de EA een significante daling van het aantal NPS ($p=0,001$), de ernst ($p=0,002$) en de emotionele belasting op de MW ($p=0,037$) waargenomen. Op T3 is het verschil in het aantal NPS significant verschillend ($p=0,017$) in het voordeel van de PmD van de EA en werd er een randsignificante daling van het agitatie-niveau ($p=0,069$) opgetekend. Op de andere uitkomstmaten werden geen significante verschillen gevonden.

Conclusie Het toepassen van PGZ bij PmD door MW van een WZC is effectief wat betreft het aantal NPS, de ernst alsook de emotionele belasting op MW. Het is niet duidelijk of het toepassen van PGZ ook verantwoordelijk is voor het licht positief effect op agitatie.

34. The social environment's relation with frailty: a systematic review

Daan Duppen, Michaël Van der Elst, Sarah Dury, Deborah Lambotte, Liesbeth De Donder

Purpose Policymakers tend to rely more and more on the informal network as care providers for frail older adults. However, these networks are becoming smaller in later life, and network members might also be (at risk for being) frail. This paper describes the risk and protective factors in relation to social networks and the wider social environment with frailty.

Method Observational studies in Web of Science, PubMed, Proquest social Science and Ovid psychINFO databases were systematically screened for relevancy. Eighteen findings from 15 articles were classified in four different categories.

Results As for frailty as outcome, social environment at the meso/exo level was related in 6/6 studies. In 2/5 studies, a relation was found at the micro level. In terms of the adverse outcomes of frailty (e.g. mortality, hospital admission, lower quality of life), one study mentioned a relation at the meso/exo level, while only 1/5 studies indicated a relation at the micro level.

Conclusion Frailty and the social environment are related. The relation of the social environment on frailty is clearer than the relation with adverse frailty outcomes. In particular: Factors at the meso/exo level as social participation and neighbourhood factors seem to be protective. The role of social support and networks (micro level) remain ambiguous. In order to counteract frailty in prevention programmes focussing on older adults, it is indicated to include social environment from a broad perspective by not solely focussing on increasing social support and strengthening networks.

35. Frailty risk profiles of home-dwelling older adults in Flanders, Belgium

Sarah Dury, Ellen De Roeck

Background This paper investigates risk profiles of frailty among older people, as these are essential for detecting those individuals at risk of adverse outcomes and to undertake specific preventive actions. Frailty not only is conceived as a physical problem but also refers to emotional, social, and environmental hazards.

Methods Using data generated from Belgian Ageing Studies ($n=30,984$), we tested a multivariate regression model which included socio-demographic and socio-economic indicators as well as four dimensions of frailty, for men and women separately.

Results Findings indicate that for both men and women, increased age, having no partner, having moved in the previous 10 years, having a lower educational level and having a lower household income are risk characteristics of becoming frail. Moreover, when looking at the different frailty domains, different risk profiles arise, and gender-specific risk characteristics are detected.

Conclusion This paper elaborates on practical implications and formulates a number of future research recommendations to tackle frailty in an ageing society. The conclusion demonstrates the necessity for a thorough knowledge of risk profiles of frailty, as this will be cost and time saving and permit preventive actions to be more individually tailored.

36. Kan besluitvorming omtrent vroegtijdige zorgplanning gedefinieerd worden in goed begrijpbare codes?

Elieen Eeckhout, Henrike Beerwerth, Jan De Lepeleire, Johan Lisaerde

Doel Vroegtijdige zorgplanning (VZP) wordt steeds belangrijker. Toch zijn er tot op heden geen gevalideerde codes beschikbaar om het resultaat ervan te registreren. In dit werk wordt door middel van een literatuuronderzoek nagegaan of er gevalideerde zorgdoelen of specifieke codes van VZP beschreven zijn en in welke mate deze bruikbaar zijn in de praktijk. De onderzoeksvragen, op basis waarvan dit werk is opgebouwd, luiden: "Kan besluitvorming omtrent VZP in begrijpbare codes gedefinieerd worden?" en "Hoe luidt de definitie van deze codes".

Methodologie Via een Medline zoektocht werd er gezocht naar bestaande modellen voor de codering van VZP en naar beschreven goals of care. Daarnaast werden bestaande

Nederlandstalige richtlijnen voor palliatieve zorg en vroeg-tijdige zorgplanning geraadpleegd.

Resultaten Het Brugs beschrijft specifieke codes. Daarnaast werden zes zorgdoelen ("goals of care") geïdentificeerd die in meerdere literatuurstudies naar boven komen als de meest belangrijke. Deze studie vergelijkt de bestaande codes en zorgdoelen om te komen tot een voorstel van goed communiceerbare codes die in de praktijk gebruikt kunnen worden.

Conclusie We stellen dat het Brugs model een goede basis is voor het registreren en coderen van VZP. We zijn van mening dat deze codes meer uitgebreid moeten worden op basis van in de literatuur beschreven zorgdoelen. Zo heeft deze studie een aantal toevoegingen geïntegreerd in het bestaande model: invoeren van een Code 0, code C(t) en het integreren van het zorgdoel 'ondersteuning van familie en zorgverleners'. Ten slotte geven we een illustratie van hoe dit model er zou moeten uitzien.

37. Socio-demographic characteristics and care use patterns in community-dwelling older adults

Bram Fret, Sofie Van Regenmortel,
Deborah Lambotte, Sarah Dury, Nico De Witte,
Liesbeth De Donder, Dominique Verté

Purpose Timely detection of frailty and preventive home interventions can allow older people to age well at home and maintain their independence. In recent years, formal caregivers gained more attention for preventive home-based support and health promotion for older people to prevent frailty, but research in this field is still limited. This paper aims to identify differences in formal and informal care use of community-dwelling older adults in terms of socio-demographic and socio-economic characteristics.

Methods First, latent class analyses (LCA) are used to identify profiles of care use among community-dwelling older people. Second, chi-square analyses are used to assess the socio-demographic and socio-economic variables within the different profiles of care use. All analyses are performed on data collected by the Belgian Ageing Studies, a survey among community-dwelling older people (60+, $N=38,066$).

Results First, LCA identifies eight different types of care use among older adults varying in amount and type of care providers. Second, older adults that are likely to receive a combination of formal and informal care are more likely to be older (80+), never married and more in need of help for personal care, household activities and personal mobility.

Conclusion The results suggest that the use of formal care increases with age and is not related to socio-economic status. A preventive home-based approach seems to be useful for younger older people who use less formal home assistance. Receiving care from nuclear family appears to substitute formal care use.

38. Using the interRAI palliative care instrument in nursing homes: practice-based experiences of care professionals

Kirsten Hermans, Nele Spruytte

Purpose This study aims to evaluate the usefulness, feasibility and face validity of the interRAI palliative care instrument (interRAI PC) in nursing homes.

Methods A cross-sectional study was conducted in 15 nursing homes. Nursing home staff from various disciplines ((head) nurses, assistant nurses, psychologists, quality coordinators, physical therapists, etc.) filled out the interRAI PC during 1 year for all nursing home residents with palliative care needs. Experiences with the use of this instrument were collected through field notes, semi-structured interviews and focus groups with participating caregivers. These data were thematically analysed and synthesized.

Results The interRAI PC was evaluated as a useful instrument by care professionals in nursing homes. However, it is not always feasible to complete the interRAI PC because of organizational reasons (high workload, lack of computers, lack of integration in the organization, etc.). Furthermore, the face validity of the instrument could be improved as certain items were evaluated as incomplete, missing, redundant or too complex.

Conclusion This qualitative evaluation on the usefulness, feasibility and face validity of the interRAI PC will help to optimize the instrument and hence support care providers to provide palliative care of high quality in nursing homes.

39. Survey studie naar de attitudes en barrières van verpleeg- en zorgkundigen omtrent mond- en lichaamshygiëne bij afhankelijke geriatrische patiënten

Elise Janssens, Els Steeman, Koen Milisen

Doel Veel verpleegkundigen en zorgkundigen voeren de lichaamshygiëne bij afhankelijke geriatrische patiënten dagelijks uit, terwijl de mondverzorging vaak wordt overgeslagen en suboptimaal is. Inzicht in attitudes en barrières van zorgverleners omtrent hygiënische maatregelen bij geriatrische patiënten is noodzakelijk om veranderingen te kunnen implementeren.

Methodologie De Persoonlijke Hygiëne Percepties en Attitudes Vragenlijst (PHPAV) werd opgesteld, gevalideerd en verspreid bij 312 verpleeg- en zorgkundigen werkzaam in het AZ Nikolaas (cross-sectioneel design). M.b.v. descriptieve analyses werden de resultaten van de bevraging beschreven.

Resultaten De meest gerapporteerde barrières bij de uitvoering van de mondhygiëne waren 'Weerstand van de patiënt' (53%) en 'Te weinig tijd' (37%). Bij de uitvoering van de lichaamshygiëne was dit respectievelijk 37 en 6%. 20% ervoer geen barrière bij de uitvoering van de mondhygiëne, bij de uitvoering van de lichaamshygiëne was dit 49%. Vele participanten beschouwden mondhygiëne en lichaamshygiëne als een prioriteit (respectievelijk 88,1 en 97,3%). Voor alle mondverzorgingshandelingen ging meer dan 75% van de zorgverleners akkoord met de stelling 'Ik heb hier voldoende kennis over' en 'Ik vind deze zorg belangrijk'. Een minderheid van de zorgverleners (gemiddeld 20,8%) voerden de verschillende mondverzorgingshandelingen uit volgens de aanbevolen frequentie. Alle deelnemers gaven aan voldoende kennis te hebben over lichaamshygiëne en iedereen beschouwde deze zorg als belangrijk.

Conclusie Hoewel de verpleeg- en zorgkundigen zich bewust zijn van het belang van zowel de mond- als de lichaamshygiëne, wordt de mondhygiëne niet uitgevoerd

volgens de aanbevolen frequentie, waarschijnlijk door de ervaren barrières. Tekort aan kennis speelt mogelijk ook een rol, maar vraagt om verder onderzoek.

40. Prediction of glomerular filtration rate in geriatric patients: which formula to use?

Julien Dekoninck, Nele Van Den Noortgate

Purpose To compare four formulas estimating GFR (eGFR), CKD-EPI, BIS, Cockcroft&Gault (CG) and MDRD, with a Cr-EDTA clearance as measured GFR (mGFR).

Methods Eighty-nine patients (83.5 ± 6.8 years; 25 men) are included in the study. eGFRs are compared to mGFR in the total population as well as in a subpopulation with mGFR < 60 ml/min and ≥ 60 ml/min. Statistical analysis was performed using Spss version 22. Bias is measured as mean difference of eGFR minus mGFR, precision as standard deviation of bias. The percentage of correct estimates within 30% of the mGFR is used as accuracy.

Results CG and BIS have the least bias (-3.0 and -0.26 , respectively). CG has the highest precision (16.9) and accuracy (68.5%), followed by BIS (20.9 and 66.3%, respectively). MDRD is the formula showing the highest bias (15.4) and the lowest precision/accuracy (23.9/40.4%). In the older patient with mGFR < 60 ml/min, the CG has an even higher precision/accuracy (9.9/75.4%). The BIS has the second best precision/accuracy (11.4/64.2%) but overestimates more in mGFR < 60 ml/min (bias 7.3). MDRD remains the least adequate eGFR formula. None of the formulas has an acceptable estimating power for mGFR ≥ 60 ml/min. Results are less consistent with the lowest bias, highest precision and accuracy for MDRD, CG and CKD-EPI, respectively. CKD-EPI tends to perform best taking into account a considerable underestimation (bias 13.5).

Conclusion CG formula has the lowest bias and highest precision/accuracy, especially in an older population with mGFR < 60 ml/min. The newer formulas BIS and CKD-EPI tend to be the second best choice in the lower and higher mGFRs, respectively.

41. Ortho-geriatric co-management of older adults admitted to an orthopaedic ward: clinical and financial impact

Bobbie Kayembe, Karen Pien, Thierry Scheerlinck, Ivan Bautmans, Ingo Beyer

Introduction Thirty percent of our orthopaedic ward admissions are aged ≥ 75 , mainly admitted for osteoporotic fractures and surgery for osteoarthritis. Comorbidity requires geriatric management, but surgeons fear negative effects on length of stay (LOS) and financing. We evaluated the qualitative and financial impact of ortho-geriatric co-management in an orthopaedic ward.

Material and Methods In 2014 a geriatrician (0.6 FTE) was assigned to the orthopaedic ward of the Universitair Ziekenhuis (UZ) Brussel. Patients aged ≥ 75 and hospitalized between October 1 and December 31 2014 were compared to those hospitalized in the same period in 2013. Outcomes were: number of diagnoses (ICD-9-CM), grouped in APR-DRGs with severity of illness (SOI), LOS and financed LOS.

Results No significant differences were found between 119 admissions in 2013 (mean age 83.3 years, 84 women/35 men, 22 hip fractures) and 131 admissions in 2014 (mean age 82.6 years, 104 women/27 men, 23 hip fractures). We observed a significant difference in the number of diagnoses (12.0 ± 6.8 vs. 13.9 ± 7.4 , $p = 0.039$) with an increase in SOI (27–34% for severe, 34.2–40.0% for severe and extremely severe). LOS and financed LOS increased minimally (10.9–11.5 days, and 11.5–13.0 days, respectively, $p > 0.05$).

Conclusion Daily presence of a geriatrician in an orthopaedic ward increases the quality of care, as indicated by the number of medical diagnoses registered and taken care of. LOS did not increase significantly, but better financing could be obtained due to better severity of disease registration, compensating for the cost of the geriatrician.

42. Implementation of geriatric assessment-based recommendations in older patients with cancer: a multicentre prospective study

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Objectives The main objective of this study was to describe geriatric recommendations based on geriatric assessment (GA) and to evaluate the implementation of these recommendations.

Methods A two-step approach of screening followed by GA was implemented in nine hospitals in Belgium. Patients aged ≥ 70 years were included at diagnosis or at disease progression/relapse. Concrete geriatric recommendations were systematically documented and reported to the treating physicians and consisted of referrals to professional healthcare workers. Patient charts were reviewed after 1 month to verify which geriatric recommendations had been performed.

Results From August 2011 to July 2012, 1550 patients were included for analysis. The median age was 77 (range: 70–97), and 57% were female. A solid tumour was diagnosed in 91.4% and a haematologic malignancy in 8.6%. Geriatric screening with the G8 identified 63.6% of the patients for GA ($n = 986$). A median of two geriatric recommendations (range: 1–6) were given for 76.2% (95%CI: 73.4–78.8) of the evaluable patients ($n = 710$). A median of one geriatric recommendation (range: 1–5) was performed in 52.1% (95%CI: 48.4–55.8) of the evaluable patients ($n = 689$). In general, 460 or 35.3% (95%CI: 32.8–38.0) of all the geriatric recommendations were performed. Geriatric recommendations most frequently consisted of referrals to the dietician (60.4%), social worker (40.3%) and psychologist (28.9%).

Conclusion This implementation study provides insight into GA-based recommendations/interventions in daily oncology practice. Geriatric recommendations were given in about three quarters of patients. About one third of all geriatric recommendations were performed in approximately half of these patients.

43. A nationwide implementation of a multidisciplinary geriatric assessment and intervention program in Belgian older patients with cancer

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Objectives The objective of this study was to implement geriatric assessment (GA) and interventions nationwide within the Belgian older population with cancer in collaboration with geriatricians and the Belgian geriatric care program.

Methods A prospective multicentre ($n=22$) cohort study was set up. Eligible patients had an invasive cancer or haematologic malignancy and were ≥ 70 years old; an oncologic treatment decision had to be made. At baseline, patients were screened using G8, and if abnormal (score $\geq 14/17$), a GA was performed. Geriatric recommendations for interventions were formulated by a trained healthcare worker (THCW), in collaboration with the geriatric care program (e.g. inpatient geriatric consultation team). About 3 months after baseline assessment, the general health status of the older patient was reassessed, and unplanned readmissions, survival and application of the proposed geriatric recommendations were documented.

Results From November 2012 till February 2015, 8465 patients were included. Median age was 78 years (range: 70–101), and 70.1% had an abnormal G8 score warranting a GA. In the group where GA was performed, geriatric recommendations were given in 75.8% and performed in 65.6% of the patients. The final database is currently being constructed, and results on the different endpoints will be provided at the meeting.

Conclusion This nationwide implementation project evaluated 8465 older patients with cancer in 2.5 years in a uniform way. The close collaboration with geriatricians and the Belgian geriatric care program corresponds well to the authorities' vision that oncology should not develop geriatric programs independently from the Belgian geriatric care program.

44. Conversion of Cambridge cognition examination to the international classification of functioning, disability and health terminology and scoring system

Sam Kirch, Patricia De Vriendt, Charlotte Brys, Ellen Gorus

Purpose In order to contribute to a more uniform and standardized assessment policy and to improve the diagnostic of dementia, the Cambridge Cognition Examination (CAMCOG) was converted to the International Classification of Functioning, Disability and Health (ICF) framework, resulting in an ICF-CAMCOG. The construct and discriminative validity of the ICF-CAMCOG were evaluated.

Method The conversion was performed by a team of three health professionals by means of content comparison of the

items and subsequently translating the scoring system using automatic algorithms. CAMCOG data of (1) 25 cognitively healthy elderly, (2) 25 persons with mild cognitive impairment and (3) 25 patients with mild Alzheimer's disease were obtained from studies at a university hospital setting. To evaluate the construct validity, the correlation between the total score of the ICF-CAMCOG and the CAMCOG was analysed. For the discriminative validity, receiver operating characteristic (ROC) curves for the ICF-CAMCOG and the CAMCOG were compared.

Results All 59 CAMCOG items were linked to corresponding ICF categories. Three ICF domains were addressed: global mental functions, specific mental functions and general tasks and demands, divided over 15 categories. There was a significant correlation between the total scores of CAMCOG and ICF-CAMCOG ($r=-0.987$; $p<0.01$). The area under the curve (AUC) values of the ICF-CAMCOG were between 0.819 and 0.978.

Conclusion Overall, the clinical use of the ICF-CAMCOG looks promising; however, the ability of the ICF-CAMCOG to discriminate between the three diagnostic groups was not better than that of the CAMCOG.

45. The clinical relevance and completeness of the detection of potentially inappropriate prescribing in hospitalized older patients with the GheOP³S-tool

C. Kymper, E. Tommelein, K. Boussery, M. Petrovic, A. Somers

Purpose (1) To evaluate clinical relevance of potentially inappropriate prescribing (PIP), detected with the GheOP³S-tool. (2) To evaluate acceptance of proposed alternatives by a geriatrician. (3) To evaluate the analysis' completeness, compared to a standard reference.

Methods From October 2014 to March 2015, an observational study was performed at the Sint-Vincentius hospital in Deinze. Patients admitted to the geriatric ward were consecutively screened for inclusion (> 70 years and using > 5 chronic drugs). Patients were excluded if they had been admitted to the hospital during the 3 preceding months. First, PIP prevalence was determined with the GheOP³S-tool, using the complete medication history. Second, for each detected PIP-item, we evaluated clinical relevance and acceptance of the proposed alternative. Finally, detected PIP-items were compared to the adapted MAI.

Results In 57 (95%) patients, 250 GheOP³S-items were detected (median: 4 PIP per patient, interquartile range: 3–5). Clinical relevance was scored "serious" for 182 items (73%) and "significant" for 67 items (26%). The proposed alternative was accepted for 198 PIP items (79%). The adapted MAI detected 536 items, of which 145 were also detected by the GheOP³S-tool. By the GheOP³S-tool, 119 extra PIP-items were detected, but not by the adapted MAI.

Conclusion The clinical relevance of the PIP items detected with the GheOP³S-tool is high as well as the acceptance of the proposed alternatives. The GheOP³S-tool detected one third of the items detected by the standard reference. Furthermore, a substantial amount of extra PIP items was detected by the GheOP³S-tool, all of which considered relevant by the geriatrician.

46. Does informal care substitute for formal care? Informal and formal care use among frail community-dwelling older people

Deborah Lambotte, Sofie Van Regenmortel, Bram Fret, Sarah Dury, Liesbeth De Donder, Tinie Kardol, Nico De Witte, Dominique Verté

Purpose The purpose of this study is to empirically examine the relationship between frailty in community-dwelling older people and their informal and formal care use. This research uses a multidimensional approach of frailty and recognizes the physical, social, psychological and environmental aspects of frailty in older people.

Methods First, latent class analyses (LCA) are used to identify profiles of informal and formal care use among community-dwelling older people. Second, chi-square analyses are used to explore the relationship between frailty and the different care profiles and analyses of variance (ANOVA) to explore the relationship between hours of assistance and care profiles. Therefore, cross-sectional data among community-dwelling older people (60+) are used, collected by the Belgian Ageing Studies (N=38,066).

Results LCA identifies eight significant profiles of care use among older people. These profiles vary in amount and type of care providers. Community-dwelling older people who are more likely to receive care from the nuclear and extended family, the general practitioner, nursing care and formal home assistance are a frail group since they are more physically, psychologically, environmentally and multidimensionally frail than expected. They also receive more hours of assistance compared to other profiles. Older people who are more likely to receive care from only the nuclear family are more socially frail than expected.

Conclusion The results suggest that the substitution relationship between informal and formal care tends to disappear when frailty in older people increases, except for social frailty. Frail older people are more likely to receive care from both formal and informal caregivers.

47. Male osteoporosis: are obesity and insulin resistance protective? Cross-sectional results from the European male ageing study

Michaël Laurent, Michael Cook, Kate Ward, Judith Adams, Leen Antonio, Brigitte Decallone, Frederick Wu, Dirk Vanderschueren, Stephen Pye, Terence O'Neill, Evelien Gielen, The EMAS Study Group

Background Obesity and diabetes are associated with higher bone density but unimproved bone strength and fracture risk. **Aims:** To investigate the associations of femoral and lumbar bone density, heel ultrasound broadband attenuation, radius pQCT, bone turnover markers with obesity, metabolic syndrome components (waist circumference, hyperglycaemia, hypertriglyceridemia, hypertension, low HDL) and insulin sensitivity (HOMA-S).

Methods Cross-sectional observational analysis from the European Male Ageing Study (7 centres, n=3129 men aged 40–79 years). Linear regression models were used, adjusted for age, centre, smoking, alcohol and body mass index (BMI).

Results Metabolic syndrome was present in 975 men (31.2%) and increasingly prevalent with age. Waist cir-

cumference and BMI were associated with lower bone turnover, higher hip and spine BMD, heel ultrasound attenuation and radius cross-sectional bone area and strength (by stress-strain index). Following BMI adjustment, hypertriglyceridemia, hyperglycaemia and insulin resistance by HOMA were inversely associated with bone turnover markers, heel ultrasound, hip BMD and lower radius bone area and strength.

Conclusion Body mass is positively associated with bone mass, but underlying markers of insulin resistance are negatively associated with bone mass and strength at different skeletal sites. Underlying low bone formation is part of the adverse metabolic effects of obesity and may explain the failure to adapt bone strength to body weight. These results urge caution against false reassurance by absence of osteoporosis in middle-aged and elderly overweight and obese men.

48. Een kwalitatieve analyse van het chronisch gebruik van psychofarmaca in woonzorgcentra

Lukas Leten, Majda Azermai, Maarten Wauters, Jan De Lepeleire

Doel Het nagaan van de redenen voor het starten, doorgeven en stoppen van psychofarmaca bij ouderen met dementie die gedragsproblemen vertonen in het woonzorgcentrum.

Methodologie Een kwalitatief onderzoek op basis van 27 semi-gestructureerde interviews, geanalyseerd met de 'Qualitative Analysis Guide of Leuven (QUAGOL)' en dit door drie onafhankelijke beoordelaars.

Resultaten Zeventien codes werden opgesteld voor 4 thema's: (1) Starten, stoppen of doorgeven?; (2) Gedrag; (3) Therapie; en (4) Alternatieven. De voornaamste redenen voor opstart van psychofarmaca waren het verminderen van storend gedrag en het verbeteren van de levenskwaliteit van de bewoner. Een vergelijking tussen de verschillende geïnterviewden toonde aan dat psychofarmaca veelal werd gestart op vraag van de verpleegkundige staf. De arts noch de verpleegkundigen achtten de opvolging van de medicamenteuze behandeling als hun taak en neigden de verantwoordelijkheid hierover door te schuiven. Eenmaal gestart werd de medicatie meestal chronisch gegeven, zij maakte echter deel uit van een dynamisch proces waarin naar een evenwicht werd gezocht tussen de werking en de nevenwerking. Meer inzicht in het gedrag van de bewoner leidde tot een betere behandeling van de gedragsproblemen.

Conclusie Het gebruik van psychofarmaca in Belgische woonzorgcentra is vaak chronisch. Desalniettemin maakt dit chronisch gebruik deel uit van een dynamisch proces waarbij artsen en verpleegkundige zoeken naar het evenwicht tussen risico's en baten. Afbouw van psychofarmaca alsook het toepassen van niet-farmacologische alternatieven blijven belangrijke knelpunten in de woonzorgcentra.

49. Psychofarmaca in de woonzorgcentra. Een exploratief veldonderzoek van het voorkomen van QT-verlenging in het woonzorgcentrum

Lukas Leten, Jan De Lepeleire

Doel Het nagaan of QT-verlenging (>450 ms voor mannen en >470 ms voor vrouwen) voorkomt in het woonzorgcentrum.

Methodologie In een exploratief veldonderzoek in twee woonzorgcentra werden residenten geselecteerd die psychofarmaca gebruikten (antidepressiva, antipsychotica of beiden). Een 12-afleidingen elektrocardiogram (ECG) werd afgenomen.

Resultaten In totaal werden 40 ECG's afgenomen (24 bij vrouwen en 16 bij mannen). Bij 8 à 12 (20–30%) onder hen werd QT-verlenging vastgesteld, dit zowel bij mannen (4 à 5 van de 16 of 25–31%) als bij vrouwen (4 à 7 van de 24 of 17–29%).

Conclusie QT-verlenging komt frequent voor in de setting van het woonzorgcentrum. Verder onderzoek is nodig voor een betere inschatting van dit probleem.

50. Het toepassen van valpreventiemaatregelen in de thuiszorg: een survey onderzoek in Vlaanderen

Greet Leysens, Charlotte Baecke, Sieglie Vandamme, Ellen Vlaeyen, Deborah Vanaken, Elise Janssens Eddy Dejaeger, Dirk Cambier, Evelien Gielen, Stefan Goemaere, Olivia Vandeput, Koen Milisen

Doel Valincidentiecijfers bij thuiswonende ouderen blijven aanzienlijk hoog. De gevolgen van een valincident duiden op het belang van screenen en een gerichte multifactoriële en multidisciplinaire aanpak bij 65-plussers met een verhoogd valrisico. Deze studie beschrijft in welke mate valpreventiemaatregelen door gezondheidswerkers in Vlaanderen worden toegepast bij thuiswonende ouderen. Bijkomend worden de belemmerende factoren voor de implementatie van valpreventiemaatregelen onderzocht.

Methodologie Een online survey werd verspreid via Vlaamse beroepsverenigingen van gezondheidswerkers en andere partners van het Expertisecentrum Val- en fractuurpreventie Vlaanderen.

Resultaten 1483 gezondheidswerkers (verpleegkundigen 55%, huisartsen 24%, kinesitherapeuten 17% en ergotherapeuten 4%) werden geïncludeerd. 93% geeft aan minstens 1 maal per maand te worden geconfronteerd met valproblematiek. 96% is van mening een positieve bijdrage te kunnen leveren aan valpreventie. Minstens 1 maal per jaar worden valincidenten actief bevraagd (62%) en wordt gescreend naar loop- en/of evenwichtsproblemen (84%). Een multifactoriële evaluatie wordt uitgevoerd i.g.v. een recent valincident (95%) of een verhoogd valrisico (76%) en wordt besproken op een multidisciplinair overleg (51%). Meest frequent geven gezondheidswerkers advies over onveilige situaties/gedrag (93%), loophulpmiddelen (91%), personenalarmsysteem (89%) en schoeisel (85%). Respondenten geven aan dat ongemotiveerde ouderen (75%) die hun valrisico ontkennen (85%), tijdsgebrek (60%), onvoldoende terugbetalingsmogelijkheden (54%), personeelstekort (50%), moeilijke communicatie (31%) en kennisstekort (23%) belemmerende factoren voor implementatie zijn.

Conclusie Hoewel gezondheidswerkers zich bewust zijn van het belang van valpreventiemaatregelen, impliceren deze resultaten een verhoogde nood aan communicatie en meer gestructureerde multidisciplinaire samenwerking, (na)vorming, duidelijk valpreventiebeleid en aangepaste terugbetalingscriteria. Motiveren en sensibiliseren van

ouderen blijft cruciaal voor het succes van een effectief valpreventiebeleid.

51. Impact of strength training (ST) and aerobic training (AT) on serum levels of inflammatory mediators in relation to pain, adherence and compliance

Louis Nuvagah Forti, David Beckwée, Rose Njemini, Peter Vaes, Thierry Scheerlinck, Ivan Bautmans

Objective This study aimed to correlate serum levels of cytokines with pain, adherence and compliance in knee osteoarthritis (KOA) patients following ST and AT.

Method Thirty-nine KOA patients were randomized to 3x/week ST or AT during 18 weeks. Professional supervision of the exercise sessions was gradually decreased (3x/week during weeks 1–3, 2x/week during weeks 4–5 and 1x/week during 6–18). Pain (Intermittent and Constant Osteoarthritis Pain questionnaire) and interleukin (IL)-6, IL-8, IL-1ra, IL-1b, GM-CSF and sTNFR1 were determined at baseline and after 18 weeks.

Results Thirty-two participants (62 ± 9 years) completed the program. No significant change in inflammatory mediators was found following training ($p > 0.05$) in neither of the exercise groups. Pain decreased in the aerobic ($p = 0.029$) but not in the strength ($p = 0.089$) group. Excluding those with an acute infectious disease just before or during study (AT: $n = 4$; ST: $n = 3$), IL-6 levels decreased with a higher adherence ($r = -0.728$; $p = 0.011$) and compliance ($r = -0.622$; $p = 0.041$) in the ST group, whereas sTNFR1 levels decreased with higher non-supervised compliance in the AT group ($r = -0.589$; $p = 0.013$). After also excluding those on anti-inflammatory medication (AT: $n = 1$; ST: $n = 0$), IL-6 and IL-1ra decreased with higher non-supervised adherence ($r = -0.802$, $p = 0.017$ and $r = -0.8057$, $p = 0.007$, respectively), and finally pain decreased with higher non-supervised adherence ($r = -0.586$; $p = 0.045$) in the ST group.

Conclusion Our results show that 18 weeks of training did not induce a significant change of circulating cytokines in the two treatment groups. However, training triggers a decrease in pain in the AT group. Finally, decreasing pain and inflammatory mediators were correlated with higher exercise adherence and compliance.

52. Een 70-jarige man met een pijnlijke en gezwollen hand

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Doel Case report betreffende een zeldzame presentatie van extrapulmonale tuberculose (EPTB) namelijk extensorpees tenosynovitis van de hand.

Methodologie Case report en literatuur review.

Resultaten Een 70 jarige patiënt presenteerde zich in de ambulante orthopedische kliniek met pijn en zwelling van het dorsale compartiment van de linkerhand en dit sinds enkele weken. Er was geen trauma. De patiënt had een medische voorgeschiedenis van maagzweren en een operatie voor de ziekte van Dupuytren aan de rechterhand. Tij-

dens zijn tienerjaren heeft hij een BCG vaccinatie gehad. De patiënt is een leerkracht met pensioen, hij drinkt 2 alcoholische consumpties per week. Zijn hobby is het renoveren van boten. Men vermoedde een inflammatoire ziekte. Een lokale infiltratie met corticosteroïden werd gegeven. Binnen enkele dagen verergerde de pijn en zwelling. De patiënt werd doorgestuurd naar de orthopedische dagkliniek voor een chirurgische debridement. Synoviale biopsies en culturen werden verkregen. Histologie toonde ernstige granulomateuze synovitis met necrose en multiple zuurvaste bacilli. Doorgedreven diagnostiek op weefselstalen (PCR, cultuur) bevestigde de diagnose van *Mycobacterium tuberculosis*. Er was een klassiek gevoeligheidspatroon. De empirisch opgestarte 4-ledige anti-tuberculeuze therapie werd verdergezet. Uiteindelijk diende pyrazinamide gestaakt te worden wegens een toxische dermatose. Vervolgens werd gekozen 3-ledige therapie te continueren gedurende 9 maanden met uiteindelijk goed functioneel herstel.

Conclusie Een extensorpees tenosynovitis van de hand is uiterst zelden een uiting van EPTB. Een snelle diagnostiek zowel klinisch als microbiologisch met bijv. PCR is essentieel. Anti-tuberculeuze therapie dient snel gestart te worden in combinatie met chirurgisch debridement teneinde de functionaliteit te vrijwaren.

53. Evaluation of cognitive dysfunction in the existing frailty instruments

A. Mertens, R. Vella Azzopardi, S. Vermeiren, A. Habbig, I. Bautmans, E. Gorus, M. Petrovic, N. Van Den Noortgate, I. Beyer

Purpose Cognitive impairment is associated with physical frailty. We aimed to identify how cognition is assessed in existing frailty instruments.

Method PubMed, Web of Knowledge and PsycINFO were screened for frailty instruments using the keywords frailty, frail elderly, aged, risk assessment, classification and diagnosis.

Results The majority (45/79=57%) of the frailty instruments do not look for cognitive dysfunction. Thirty-four instruments assess cognitive dysfunction: ten instruments use a specific scale (mini-Cog, SPMSQ and CSID), each used in one instrument, and MMSE in seven instruments (using different cut-offs), 12 instruments a general question; four instruments check for several items of memory, one asks the exact date, two look for clouding and delirium combined with one other question, two assess several aspects (short-term memory, attention, long-term memory), four instruments ask for cognitive dysfunction as a co-morbidity. Of the 79 frailty instruments, 58% were published between 2012 and 2015. Fifty-six percent of those recent instruments include cognitive impairment. Instruments assessing cognition were used in community dwellers (54%), in combined groups of community dwellers and institutionalized people (15%), in oncology (12%), in hospitalized persons (6%), in persons who underwent surgery (3%) and in elective surgery (1%). Of the oncology instruments, 60% look for cognitive dysfunction.

Conclusion Despite the association between frailty and cognitive dysfunction, a minority of frailty instruments assess cognition, and the type of assessment varies substantially. Cognition is assessed more frequently in instruments published during the last 3 years and in instruments used for specific subgroups such as elective surgery and oncology.

54. Gender difference in the heat shock response to high-load resistance training in older humans

Rose Njemini, Louis Nuvagah Forti, Tony Mets, Evelien Van Roie, Walter Coudyzer, Ingo Beyer, Christophe Delecluse, Ivan Bautmans

Purpose Heat shock proteins (Hsps) are intracellular proteins that are synthesized in response to stress. A key intracellular role of Hsps involves chaperoning damaged proteins, which is of utmost importance to normal cell function. Though basically intracellular, Hsps are also present in extracellular fluids, where they are perceived as danger signals and promoters of immune surveillance. Previous studies from our group and those of others indicate an exercise-induced acute production of Hsps in humans. However, scant studies have focussed on the long-term effect of exercise on Hsps production. Moreover, the optimum training load required to obtain beneficial results in older subjects is lacking. Therefore, the goal of this study was to determine the effect of various training loads on Hsp70 production in older humans.

Method Circulating Hsp70 was determined in 48 apparently healthy older individuals (68±5 years) who were randomly allocated to three groups of 12-week resistance exercise at different training loads: low (7 M, 9F, 1×80–100 repetitions at 20%1RM), low+ (8 M, 8F, 1×60 repetitions at 20%1RM, then 1×10–20 repetitions at 40%1RM) and high (8 M, 8F, 2×10–15 repetitions at 80%1RM).

Results No significant change in Hsp70 concentration was noticed among the different intervention groups after 12 weeks training. However, when stratified according to gender, we observed a significant decrease in Hsp70 concentrations in the high-load group for females.

Conclusion Our results show that high-load training leads to decreased resting levels of Hsp70 in females. Whether this reflects a better health status following high-intensity exercise requires further investigation.

55. Voedingsinname score versus Mini-Nutritional Assessment: voedingscreening door niet-professionelen

Stany Perkisas, Annemarie De Cock, Maurits Vandewoude

Doel Binnen een geriatrische populatie is ondervoeding frequent. Er zijn meerdere nutritionele screeningstools beschikbaar - de meest gebruikte de MiniNutritionalAssessment (MNA). Naast professionele gezondheidswerkers lijkt het nuttig de ouderen zelf te laten screenen. MNA is hiervoor minder geschikt. Een voedselinname score lijkt voor leken meer gebruiksvriendelijk. Deze score wordt vergeleken met de MNA voor ondervoeding en overleving. **Methodologie** Alle patiënten op de dienst Geriatrie (Universitair Centrum Antwerpen) tussen 01/08/2012-31/01/2013 werden geïnccludeerd. De voedselinname score wordt berekend aan de hand van een 3-daagse observatie van inname van aangeboden voeding. Gedurende 9 maaltijden wordt een maximale score van 1 toegekend indien al de aangeboden voeding werd opgegeten. MNA-SF werd dag van opname afgenomen. Pre-albumine en albumine werden

bepaald dag na opname. Een jaar na opname werd gecontroleerd of patiënt nog in leven was. Correlaties werden berekend met de Pearson's correlation coefficient (PCC).

Resultaten In totaal werden 300 patiënten geregistreerd. De gemiddelde voedselinnaamscore was $7,0 \pm 2,0$ (mediaan 8,0, range 0–9). De voedselinnaamscore was gecorreleerd met de MNA-SF ($p < 0,001$, PCC 0,349). Er was een correlatie van de voedselinnaamscore en MNA-SF met pre-albumine ($p < 0,001$, PCC 0,207 versus PCC 0,195 respectievelijk). Voor albumine was er een correlatie met de voedselinnaamscore ($p < 0,001$, PCC 0,195) maar niet met de MNA-SF (p 0,353, PCC 0,054). Er was een correlatie van de voedselinnaamscore en MNA-SF met 1-jaar overleving ($p < 0,001$, PCC 0,402 versus PCC 0,303 respectievelijk).

Conclusies De voedselinnaamscore was beter gecorreleerd met merkers van nutritionele status en overleving dan de MNA-SF. De voedselinnaamscore lijkt ideaal voor gebruik door niet-professionelen in de thuissetting.

56. De organisatie van betekenisvolle activiteiten in woonzorgcentra: analyse vanuit het standpunt van de Medical Management Assistant

Thekla Roose, Jana Aelbrecht, Jenny Aelbrecht, Charlotte Allefs, Inge De Corte, Laura De Ruyck, Lien Gaillez, Hannah Roegis. Mede-auteurs, Ruben Vanbosseghem, Elise Cornelis, Valeri

Doel Het betrekken van bewoners bij betekenisvolle activiteiten (BA) stimuleert autonomie en levenskwaliteit. Dit is echter niet altijd de realiteit. We gingen op zoek naar praktijkvoorbeelden, beantwoordend aan de definitie van 'good practices'. Daarbij zochten we naar organisatorische verbeterpunten bij deze BA.

Methodologie Participerende observatie aan de hand van een gestructureerd observatieschema bij 14 WZC met aansluitend diepte-interviews bij telkens twee bewoners, een animator en een managementteamlid.

Resultaten Ook al leverden de WZC mooie praktijkvoorbeelden op, de bewoners bleken toch weinig inspraak te krijgen bij de activiteitenorganisatie, die bovendien ook niet aansloot bij hun wensen. De kanalen om voorstellen door te geven en de verdere afhandeling waren niet gekend. De respondenten gaven de voorkeur aan activiteiten waarvan ze bijleerden of die aansloten bij hun interesses. Structureel geplande gesprekken om interesses in kaart te brengen waren nauwelijks aanwezig. Tijdens multidisciplinaire bewonersbesprekingen werd soms nagegaan of het aanbod aansloot bij de bewoners, dit werd echter vaak niet omgezet in actie. Weinig overleg tussen het animatieteam en de directies zorgde voor niet-afgestemde visie.

Conclusie Het geven van inspraak bij bedenken, organiseren en evalueren van BA is noodzakelijk, maar weinig aanwezig. Een evaluatie van de activiteit door bewoners kan verder uitgewerkt worden, leiden tot inzicht en nieuwe ideeën genereren. Evalueren maakt de kwaliteitscyclus rond. Door bevragen, registreren en evalueren worden activiteiten beter uitgewerkt en dit vanuit de wens van de bewoner. Het is noodzakelijk dat de visies van het managementteam, de animatoren en de bewoners elkaar vinden. Om dit te ondersteunen werd een draaiboek uitgewerkt.

57. De ontwikkeling van een praktijkrichtlijn als eerste stap in het streven naar een fixatie-arme thuiszorg

Kristien Scheepmans, Bernadette Dierckx de Casterlé, Louis Paquay, Hendrik Van Gansbeke, Koen Milisen

Doel Omwille van de dilemma's die zorgverleners ervaren, de onduidelijkheden met betrekking tot de toepassing van de wetgeving in de thuiszorg en omwille van de stijgende vraag naar en het toenemend belang van de (steeds meer complexe) thuiszorg, is een richtlijn rond het gebruik van vrijheidsbeperkende maatregelen noodzakelijk. Het algemeen doel van de praktijkrichtlijn is het ondersteunen van de zorgverleners in het realiseren van een fixatiearme zorgomgeving.

Methodologie Het onderwerp, het doel en de doelgroep werden vastgelegd. Bestaande richtlijnen omtrent fysieke fixatie werden geïdentificeerd en een multidisciplinaire werkgroep werd opgericht. Er werd een literatuuronderzoek uitgevoerd in functie van de klinische vragen. Voor het opmaken van de richtlijn werd er gekozen voor de consensusprocedure en het consulteren van experts.

Resultaten De richtlijn geeft een antwoord op volgende 6 klinische vragen: 1) Wat wordt er verstaan onder fysieke fixatie in de thuiszorg? 2) Welke factoren verhogen het risico op fixatie in de thuiszorg? 3) Wat zijn de gevolgen en de impact van het gebruik van fysieke fixatie in de thuiszorg? 4) Welk ethisch en juridisch kader moet gehanteerd worden bij de beslissing en de toepassing van fysieke fixatie in de thuiszorg? 5) Hoe kan een fixatiearme thuiszorg gerealiseerd worden? 6) Welke stappen moeten worden ondernomen en wie moet betrokken worden bij zowel het beslissingsproces als bij de uitvoering/toepassing van fysieke fixatie in de thuiszorg om kwaliteitsvolle zorg te leveren?

Conclusie De praktijkrichtlijn werd gevalideerd door CEBAM. Een multi-componente interventie zal ontwikkeld worden om de richtlijn in de praktijk te implementeren.

58. Medication review in older inpatients: a case discussion

A. Somers, F. Vaillant

Aims High drug consumption in older patients and the consequent risk of drug-related problems require careful assessment of therapy. We aimed to evaluate chronic drug therapy of older inpatients with polypharmacy in order to formulate recommendations to avoid over-, under- and misuse of drugs.

Methods We performed a medication review by scoring eight questions per drug (based on the adapted Medication Appropriateness Index). We reported the results of such a medication review for an older inpatient with many comorbidities and polypharmacy.

Results An 84-year-old female patient with seven comorbidities was admitted to the hospital due to a fall. Chronic therapy consisted of 13 drugs that were each evaluated for eight criteria, i.e. indication, contra-indication, right choice, dose, modalities of therapy, duration of therapy, interactions and adverse drug reactions. MAI scores were calculated per drug by multiplying the appropriateness score (1 = marginally appropriate, 2 = inappropriate) with

the weight of each criterion. In total, 31 underlying drug-related problems were detected, most frequently duration of therapy (7), adverse drug reactions (6) and inappropriate dosing (6). The following recommendations were made for 11 drugs: stop the drug (3), lower dose and try to stop (3), interrupt the drug and consider stopping (2), change modalities (2) and change to another drug (1). Total scores per drug allowed setting priorities in the action plan.

Conclusion Structured medication review by means of implicit questions is useful for detecting clinically relevant drug-related problems and for prioritizing recommendations to optimize drug therapy.

59. Development and evaluation of a blended learning program, integrated in a complex intervention in the Come-On study

Goedele Strauven, Pauline Anrys*, the Come-On course team, Jean-Mary Degryse, Valerie Lacour, Veerle Foulon**, Anne Spinewine**

*Joined first authorship; **Joined Last authorship

Purpose To develop and evaluate a blended learning program to support the optimization of medication use in Belgian nursing homes, based on a multidisciplinary collaboration (Come-On study).

Methods Input from both academic HCPs and HCPs from the field was gained about training needs, desired formats, content and structure of the e-learning platform and on-site training sessions. An electronic satisfaction survey was sent to all participating HCPs to evaluate the training as foreseen in the Come-On study.

Results An e-learning package has been developed about the following topics: drugs and ageing, (in)appropriate medications, medication review and inter-professional collaboration. A variety of learning formats has been used (e.g. narrative PowerPoints, videos, serious games). A general participation rate of 54% was reached for the e-learning. Of those, 98% (113/115) stated that they would use the knowledge obtained via the e-learning platform, outside the Come-On study. Two types of face-to-face interactive workshops were conducted by the research team: one specific for pharmacists and one for all involved HCPs (i.e. on-site training). Sixty percent of all HCPs participated in the on-site training. Ninety-six percent of these (114/119) indicated to be satisfied about this training. For the specific training for pharmacists, a participation rate of 80% was obtained.

Conclusion A large number of HCPs participated in the e-learning and interactive workshops. In general, HCPs were satisfied about the training, a component embedded in the complex intervention of the Come-On study. Acknowledgements: This abstract is presented on behalf of the consortium KULeuven-UCL, funded by RIZIV/INAMI.

60. Screening for potentially inappropriate prescribing in the community pharmacy: development and first results of the GheOP³S-tool

Eline Tommelein, Mirko Petrovic, Annemie Somers, Els Mehuys, Koen Boussery

Background Ageing is often associated with polypathology and polypharmacy. Consequently, potentially inappropriate prescribing (PIP) becomes more frequent. Screening for PIP in primary care could lead to an improvement in health outcomes.

Purpose To develop a screening tool to systematically detect PIPs in the community pharmacy practice and to determine the prevalence of PIP using this tool in community-dwelling (CD) and institutionalized (INS) older adults (≥ 70 years) with polypharmacy (chronically ≥ 5 drugs) in Belgium.

Method A RAND/UCLA process (11 participants) with a round zero meeting, a literature review, a first written evaluation round and a second face-to-face evaluation round was completed. An additional round on feasibility in the contemporary community pharmacy resulted in the Ghent Older People's Prescriptions community Pharmacy Screening (GheOP³S)-tool, a list of 83 PIP items. The subsequent observational studies included 1016 CD and 400 INS older adults with polypharmacy, recruited from 204 community pharmacies and ten nursing homes, respectively.

Results In the community, a median of 3 PIP items per person (interquartile range (IQR) = 2–5) was detected, compared to a median of 4 (IQR = 2–6) for INS patients. Most prevalent PIPs were long-term use of benzodiazepines (CD: 50%, INS: 58%), no Ca/VitD suppletion with elevated osteoporotic risk (CD: 54%, INS: 54%) and long-term use of antidepressant agents (CD: 21%, INS: 42%).

Conclusion The GheOP³S-tool was developed to screen for PIPs in the community pharmacy practice. The first observational studies with the GheOP³S-tool detected a high number of PIPs in both CD and INS older adults with polypharmacy.

61. Vitamin D and cognition in ageing

Jos Tournoy, Margot Overman and the EMAS study group,

Purpose Lower levels of vitamin D have been related to poor cognitive functioning and dementia in older adults, but the evidence from longitudinal investigations is inconsistent. We will discuss the possible relation between vitamin D and cognition in ageing, also based on findings of the European Male Ageing Study.

Methods We reviewed the literature and analysed the longitudinal association between 1,25(OH)₂D and 25(OH)D levels in participants of the European Male Ageing Study (EMAS). Cognitive functioning at baseline and follow-up was assessed using the Rey-Osterrieth Complex Figure, Camden Topographical Recognition Memory and the Digit Symbol Substitution Test.

Results Over 30 cross-sectional studies have investigated the association between cognitive functions and 25-hydroxy-vitamin D [25(OH)D]. Most but not all of these studies reported a positive relationship between 25(OH)D and cognition. However, research in this field has been criticized for the use of suboptimal methods. Moreover, prospective studies have reported mixed results regarding vitamin D and cognitive decline. We analysed a total of 2430 men with a mean age of 59.0. In age-adjusted linear regression models, 25(OH)D concentrations were positively associated with performance on the DSST. Men with insufficient 25(OH)D levels (< 50 nmol/l) showed a greater decline on the CTRM compared to men with sufficient (≥ 75 nmol/l)

levels ($b = -0.41$, $p = 0.035$). However, these associations disappeared after adjusting for confounders.

Conclusion The association between vitamin D and cognition is controversial. We found no evidence for an association between 25(OH)D or 1,25(OH)₂D levels and cognitive decline over 4.4 years in this sample of middle-aged and elderly European men.

62. Het beoordelen van de rijgeschiktheid bij ouderen met een cognitieve beperking

Judith H.J. Urlings, Ellen M.M. Jongen, Ariane Cuenen, Tom Brijns

Doel Cognitieve achteruitgang als gevolg van veroudering kan een invloed hebben op de rijgeschiktheid, maar dat hoeft bij een lichte beperking zeker niet altijd te leiden tot een volledige rijongeschiktheid. Echter is er nog onvoldoende duidelijkheid over welke functionele vaardigheden de rijgeschiktheid van deze groep correct voorspellen. Het huidige onderzoeksproject richt zich op de ontwikkeling van een screeningsinstrument voor het beoordelen van rijgeschiktheid bij ouderen met een cognitieve beperking.

Methodologie Binnen het kader van de Zorgproeftuin 'Careville' doorliepen 136 ouderen een uitgebreid functioneel onderzoek in het Jessa Ziekenhuis. Daarnaast legden zij allen 2 rijproeven af: eenmaal in de rijsimulator en eenmaal op de weg met een beoordelaar van CARA (Centrum voor Rijgeschiktheid en Voertuigaanpassing, onderdeel Belgisch Instituut voor de Verkeersveiligheid).

Resultaten De rijgeschiktheid werd best voorspeld door een combinatie van cognitieve, visuele en motorische vaardigheden. Daarnaast gaf de rit in de rijsimulator meer inzicht in de rijvaardigheid van de oudere patiënt. Door een set van 5 vaardigheidstesten kan, met een aanvullend rijsimulatoronderzoek, een valide beoordeling van de rijgeschiktheid en inzicht in de rijvaardigheid gegeven worden. **Conclusie** Een eenvoudig en snel af te nemen testbatterij ten behoeve van beoordeling van de rijgeschiktheid werd ontwikkeld. Aanvullend levert het rijsimulatoronderzoek inzicht in de sterke en zwakke punten van de rijvaardigheid op. Dit biedt mogelijkheden op het gebied van training, waardoor ouderen langer zelfstandig mobiel kunnen blijven.

63. An unusual finding in the faeces of a geriatric patient after right hemicolectomy

Evelyn Van Caelenberghe, Liesbet Willems

Case Report A 79-year-old woman was transferred to the geriatric ward for evaluation and recovery after right hemicolectomy removal of an adenocarcinoma of the colon ascendens (T4N2). After surgery, the patient suffered from persistent foul smelling diarrhoea and abdominal pain. Twenty-three days after the right hemicolectomy, there was an unusual finding in the faeces. Anatomopathology described it as a full autolytic bowel segment with meso 25 to 1.5 cm. Clinical examination revealed a pale patient with a sensitive right hemiabdomen, but no other abnormalities. Laboratory results revealed a slow decline of the CRP level, LDH level and low albumin level. The faecal occult blood test was positive. Faecal microbiology was negative for the

common pathogens. Computed tomography (CT) abdomen showed status after right hemicolectomy with ileotransverse anastomosis, but no signs of mechanical obstruction. A gastrografen swallow test revealed a possible duodenal diverticulum and no clear leakage at the anastomosis site.

Conclusion The cause of excretion of the bowel segment remains unknown. The current hypothesis is invagination of a bowel segment before creating the anastomosis. It remains obscure that there were no signs of an acute abdomen.

64. Low adherence to fall-related advice in older persons evaluated in a falls clinic

Evelyn Van Cleynenbreugel, Joke Spildooren, Leen De Coninck, Koen Milisen, Eddy Dejaeger, Liesbeth Vander Weyden, Bert Aertgeerts, Johan Flamaing

Purpose Multifactorial interventions have positive outcomes in terms of fall prevention. Translating these results to the clinic is difficult. This study documents the adherence to multifactorial fall interventions of older persons, assessed in a falls clinic by a multifactorial falls evaluation. **Method** Older persons who consulted the falls clinic were interviewed 2 (31 patients) and 6 months (13 patients) later to evaluate the adherence to the proposed multifactorial interventions.

Results Preliminary results show that 38.7% experienced a fall within 2 months after their falls clinic visit. On average 13 ± 2.9 advices were given to the patients in the falls clinic of which 43.4% were implemented after 2 months and 57.8% after 6 months. Advices to consult a physiotherapist, use a walking aid and behavioural or environmental modifications were applied in 53.8, 30.8, 61.1 and 21.1% of patients, respectively. Patients disregarded the advices mostly for financial reasons or because they considered the advices not helpful or unnecessary. Vitamin D supplementation was deemed necessary in 83.9%; 69.2% complied after 2 months. After 2 months, only 34.5% of patients followed the advice to reduce their fall risk medication. Additional medical examinations were cancelled by 71.2% of patients mainly because of transport problems. After 6 months, a significant increase in implementation was seen for environmental modifications and the purchase of a personal alarm.

Conclusion Adherence of older persons to fall prevention advices needs to be improved to reduce the risk of falling. Falls clinics should prioritize and limit the advices and search solutions to reduce adherence barriers.

65. Gastrointestinal tolerance and renal safety of protein oral nutritional supplements: a randomized controlled trial

Dirk Van De Looverbosch, Hilde Heyman, Marijke Anthonis, Sandra Aernouts, Cindy De Landsheer, Betty Lemmens, Katrien Spiessens, An Van Laerhoven, Sander Wijers, Lucia Mikusova, Lucia, Denis Fouque, Ter Wee

Purpose High-protein oral nutritional supplements (ONS) are regularly prescribed to undernourished patients; how-

ver, usage of these in older adults is being discussed, as their renal function might have declined with age. Therefore, the aim of the current study was to evaluate effects of 8-week-long consumption of high-protein ONS on the renal function of nursing home residents in need of supplementation. Furthermore, within the same setup, differences in gastrointestinal tolerance between a standard and a more concentrated version of an ONS were investigated.

Methods Nursing home residents in Belgium and the Netherlands were included in this randomized, controlled, single blind, multi-country study (NTR2565). Subjects older than 65 years in the need of ONS were randomized to either standard volume (200 ml, 300 kcal, 20 g protein; n=35) or energy-dense, small volume (125 ml, 300 kcal, 18 g protein; n=32) group.

Results No clinically relevant and, except for flatulence, no statistically significant differences in gastrointestinal tolerance were observed between groups. No significant difference between groups was found for the estimated glomerular filtration rate and urinary albumin/creatinine ratio at week 8, or for the changes from baseline. Adverse events and changes in monitored renal parameters over the study period did not point to a deterioration of renal function.

Conclusion High-protein ONS seems to be well tolerated and safe; there is no indication that it affects the renal function in nursing home residents under the conditions tested. Results did not suggest a difference in the effect on renal function between standard and energy-dense small volume ONS format.

66. OP PENSIOEN EN ... TERUG OP KOT Een kwalitatief onderzoek naar collectief wonen in eigen dorp als alternatief voor het WZC

Marijke Van de Velde, Ellen Gorus,
Patricia De Vriendt

Doel Ouderen willen actief verouderen en een woonomgeving kiezen die hierbij aansluit. Dit stimuleert de ontwikkeling van innovatieve woonconcepten. Deze studie onderzoekt het dagelijkse leven in één Vlaams collectief woonproject.

Methodologie Dit kwalitatief fenomenologisch onderzoek analyseert diepte-interviews bij 17 respondenten met een licht zorgprofiel en brengt in kaart hoe zij het samenwonen ervaren en hoe zij hun dagen doorbrengen.

Resultaten Ouderen rapporteerden dat ze in het woonproject diverse huishoudelijke activiteiten behielden 'zoals thuis' en dat hun ontspannings- en hobby-activiteiten gevarieerd waren. Vooral lichaamsbeweging, zorgen voor medebewoners en sociale activiteiten werden vaak gemeld. Bewoners vertelden dat - naast de gezamenlijke maaltijden en het wekelijkse groepsturnen—vooral individuele activiteiten zoals lezen, televisie kijken, rusten, fietsen, tuinieren aanwezig waren. Activiteiten schenen vaak spontaan te ontstaan. De persoonlijke flat, het gemeenschappelijke woongedeelte en de buitenomgeving bleken een 'enabling environment', die hen stimuleerde om langer actief te blijven. Toch rapporteerden ouderen - zowel bij de huishoudelijke als bij de ontspanningsactiviteiten - ook activiteitenverlies o. a. door fysieke beperkingen, het overlijden van een partner, het gebrek aan een voertuig, ... Ze benadrukten voordelen, zoals de rustige woonomgeving, de privacy, het veilig gevoel en de goede omkadering, maar ook nadelen, zoals eenzaamheid en onzekerheid over de

toekomst. De bewoners waren tevreden over het collectief woonconcept, ook al was het niet helemaal 'zoals thuis'.

Conclusie Het lijkt erop dat deze collectieve woonformule ouderen de mogelijkheid biedt om een divers activiteiten-kapitaal te behouden. De vertrouwde leefomgeving faciliteert de autonomie in dagelijkse activiteiten.

67. What effects have interventions on "frail" older adults addressing the outcomes: mortality, hospitalization, costs and institutionalization?

Michaël Van der Elst, Jan De Lepeleire,
Birgitte Schoenmakers, Bert Vaes, Daan Duppen,
Bram Fret, Deborah Lambotte

Purpose The population in the European Union is ageing rapidly. Therefore, the number of older adults who are vulnerable will increase. Research shows that 17% of the persons over 65 are frail. According to some studies, interventions can restore the functionality of older adults and/or delaying the decline of frailty. This study aims to identify the effects that interventions have on "frail" older people. The effects are defined as the following outcomes: mortality, hospitalization, costs and institutionalization.

Method A systematic review will be performed. Various digital databases will be searched: Medline, Embase, the Cochrane Library and Social Sciences Citation Index. Only randomized controlled studies aiming to threat frailty in community-dwelling elderly (60+) in comparison with "usual care" will be collected.

Results The results will contain the effects of the several interventions on the outcomes mortality, hospitalization, costs and institutionalization. A comparison will be made between the different interventions to measure the most effective intervention. Also other variables will be compared, for example, age of participants and duration of the intervention, to create a framework that gives insight in the effectiveness of an intervention.

Conclusion A framework will be presented describing the most effective pathway to improve the frailty decline of older adults.

68. Activities of daily living in community-dwelling older people: initial findings of a systematic review of predictive factors

Anne van der Vorst, Rixt Zijlstra

Purpose A systematic review of longitudinal, prospective studies investigating predictive factors for basic, multidimensional daily life functioning (activities of daily living, ADL) in community-dwelling older people has been conducted.

Methods Electronic databases CINAHL (EBSCO), EMBASE, PsycINFO and PubMed were searched for potentially relevant articles published from 1998 to July 2015. Keywords and MeSH terms were used to restrict the search to longitudinal, prospective studies assessing predictive factors for ADL outcome in community-dwelling people aged 75 and over. Reference lists of included arti-

cles were screened for undetected articles, and experts were consulted to make sure all relevant articles were included.

Preliminary Results Twenty-five out of 6705 articles were included. Demographic and socio-economic characteristics, cognitive, health-related (e.g. chronic conditions and self-rated health), physical (e.g. instrumental ADL functioning and handgrip strength) and psychological (e.g. depression) factors were identified as predictors of multi-dimensional ADL functioning.

Conclusion The review demonstrates empirical evidence for a wide range of predictive factors related to ADL functioning over time. Further research is needed to rate the overall strength of the evidence per identified predictive factor by examining the associations and the quality of each study more closely.

69. Work environment elements, job satisfaction and quality of care in the Belgian home care setting for care-dependent older persons

Liza Van Eenoo, Henriëtte van der Roest,
Hein van Hout, Anja Declercq

Purpose In order to improve the quality of home care for elderly, we need information about structural elements, care processes, client outcomes and characteristics of the care professionals. For this presentation, we will examine work environment elements that influence job satisfaction and quality of care in the Belgian home care for elderly.

Methods This study is framed within the European seventh framework program "Identifying best practices for care-dependent elderly by Benchmarking Costs and outcomes of community care" (IBenC). In Belgium, we included 18 departments from five Flemish provinces of an umbrella home care organization. Per department, a questionnaire on the characteristics of the organizations was filled out. Additionally, 401 care professionals filled out a questionnaire based on existing scales such as the Copenhagen Psychosocial Questionnaire and the Physical Workload Scale. In order to establish the delivered quality of care, longitudinal data from 549 care-dependent elderly were collected by means of the interRAI Home Care instrument.

Results By comparing work environment elements, we can reveal strengths and bottlenecks per province. Additionally, we will identify work environment elements that influence job satisfaction and quality of care. Finally, we will analyse the relationship between job satisfaction and quality of care.

Conclusion This presentation will provide insight into strengths and bottlenecks of the Belgian home care for care-dependent elderly. By identifying work environment elements that have an impact on job satisfaction and on quality of care, we can support national and regional health care policymakers in their decision-making process.

70. Incidence and risk factors for hospitalization-associated functional decline in older patients with valvular heart disease

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Marie-Christin Herregods, Johan Flamaing,
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Purpose Determine the incidence and risk factors for hospitalization-associated functional decline in older patients with valvular heart disease.

Methods A prospective cohort study consecutively including patients aged 70 years and older with valvular heart disease admitted to the cardiology and cardiac surgery wards of the University Hospitals Leuven from 01 October to 30 November 2015. Functional status was measured with the Katz Index of Activities of Daily Living (ADL) at baseline, hospital discharge and 30 days post-discharge. Trained research nurses assessed the presence of risk factors using patient interviews on hospital admission and electronic patient records.

Results After 1 month recruitment, 19 patients have been included. Ten were admitted for valve surgery, six for valve surgery combined with Coronary Artery Bypass Graft, two for Transcatheter Aortic Valve Implantation and one because of symptomatic valve disease. Median age was 76 (interquartile range (IQR) = 8). Eleven patients have been assessed at hospital discharge. Seven (63.6%) declined in ADL between admission and discharge. These patients experienced a median loss of 2 points (range 1–4) and a mode of two new onset disabilities (range 1–4). Six patients declined in bathing ability, four in transfer, and two in dressing and toileting, with no patients declining in continence or feeding.

Conclusion Preliminary results indicate a substantial decline in ADL between hospital admission and discharge, with a hierarchical decline of more complex ADL. The prospective cohort study is currently running, and recruitment is ongoing. Final results are expected in January 2016 and will be presented at the meeting.

71. Diabetes in the elderly: nutritional implications

N. Van Hemelryck, N. Segers, A. Van Laerhoven,
R. Suy

Introduction Medical nutrition therapy is an important part of the overall management of diabetes. An optimal diet may contribute to good glycaemic control and reduced development of micro- and macrovascular complications. However, restrictive diets can worsen food intake through taste reduction and diminished variety of food choice. This can lead to unintended weight loss and malnutrition, which can have major negative impacts on overall health and quality of life.

Methods Literature concerning nutritional therapy for diabetes in the elderly was reviewed. An extended PubMed search was done. In addition, diabetes guidelines of international scientific societies for geriatrics and diabetes were searched. Findings were then presented to an expert panel consisting of endocrinologists, geriatricians, dieticians and diabetes nurse educators.

Results Many guidelines for the treatment of diabetes exist, but little is to be found on nutritional therapy specifically for the elderly patient. Although diabetic patients form a large heterogeneous group, guidelines do not make a difference between young, fit patients and older, frail patients. The few recommendations made for the latter include individualized nutritional care and diet liberalization.

Conclusion Consensus-based guidelines for the elderly diabetic patient are needed. The suggestion would be to divide patients into 3 categories, depending on their cognitive, functional and nutritional status. It is proposed that a

restrictive diabetic diet is not always the correct choice for all patients. The decision to prescribe a diabetic diet should be based on the risk/benefit ratio, taking life expectancy into account.

72. Participatory action research in the nursing home: how does it affect satisfaction, quality of life and participation? A randomized controlled trial

Lien Van Malderen, Patricia De Vriendt, Tony Mets, Ellen Gorus

Purpose In an active ageing (AA)-envisioned nursing home (NH), residents' participation is put central. Participatory action research (PAR) supports this; by structurally empowering residents to collaboratively analyse their situation, develop actions for improvement, which are then implemented. The study's aim was to examine how PAR affects residents on their NH satisfaction, quality of life (QoL) and experienced autonomy/participation.

Methods A clustered RCT included an intervention (I; weekly PAR sessions), an active control (AC; weekly reminiscence activity) and passive control (PC; care-as-usual), which were randomly allocated to three NHs. Per NH, 30 residents were recruited for measurements, including the nine residents in the INH participating in the PAR group and the ten residents of the ACNH joining the reminiscence activity. Measurements included the AA survey (NH satisfaction), the ACSA and LSI-A (QoL) and IPA (autonomy/participation). They were administered at pretest, post-test (6 m) and follow-up (12 m). For analysis, two variables were developed for each outcome measure incorporating the changes occurring between pre- and post-test and between pretest and follow-up. Kruskal-Wallis and Mann-Whitney U analysis were performed.

Results Participants were on average 84.8 years (standard deviation (SD) = 6.9). There were at pretest no demographic differences between NHs. The only difference in change between NH occurred between follow-up and pretest on the ACSA (QoL) ($p < 0.05$). The PCNH-ACSA improved significantly less than the INH and ACNH. There were no differences within the INHs between PAR and non-PAR participants or in the ACNHs between reminiscence participants and others. There were also no differences in evolutions between PAR participants and reminiscence participants. *Conclusion* Quantitatively, PAR only has a limited effect on QoL, NH satisfaction or autonomy/participation in comparison to control situations.

73. Participatory action research in the nursing home: how is its implementation experienced by nursing home residents?

Lien Van Malderen, Patricia De Vriendt, Tony Mets, Ellen Gorus

Purpose Participatory action research (PAR) is a structural empowering method; residents critically analyse their situation and develop actions for improvement, which are implemented. The aim of this study was to explore how residents experience the implementation of PAR in the nursing home (NH).

Methods In one NH, weekly PAR sessions were organized with nine residents (without dementia) and two moderators. After 6 months, individual in-depth interviews were performed. The interviews were written out and coded in vivo, followed by a social comparison analysis.

Results Nine themes were identified. At start (1), participants were positive but cautious, they did not know what to expect. After 6 months, the PAR experience (2) was positive, especially being able to contribute and being listened to. Regarding the course of the PAR sessions (3), most were impressed by the quality of the contributions. The communications occurred within a good atmosphere, nevertheless occasional bickering. Regarding the implementation of the proposed actions (4), different operational changes were experienced together with a good transfer of proposals. Still, better structural communications between staff were needed. The moderator enjoyed to moderate this activity (5) and was highly appreciated by all residents. Impacts of PAR on its members (6) included increased feelings of control, pride, critical awareness and satisfaction during the PAR gatherings. Most interviewees experienced a limited impact on the other residents (7). Also the experiences of staff (8) were mixed, ranging from being highly motivated to a lack of interest. For the future (9), all participants wanted the activity to continue.

Conclusion The overall positive perceptions indicate that PAR can be a fruitful activity in the NH.

74. Has EBM already grown old? Evidentie omtrent de effectiviteit en veiligheid van paracetamol en tramadol bij de geriatrische patiënt

Nina Van Moorter, Nele Van Den Noortgate, Ruth Piers.

Doel Bij de oudere populatie is pijn veelvoorkomend, maar vaak onderbehandeld. Deze review biedt een overzicht van de primaire evidentie omtrent behandeling van ouderen met trap I en trap II van de pijnladder.

Methodologie Tot maart 2014 werd in de MEDLINE database gezocht naar combinatie paracetamol of tramadol en MeSH termen "Aged, 80 and over" en "Frail Elderly", resulterend in 10 klinische studies (7 omtrent paracetamol, 2 omtrent tramadol, 1 omtrent beide).

Resultaten Paracetamol- Paracetamol 3 g/d per dag veroorzaakte significant positieve effecten bij rusthuisbewoners met dementie. Bij osteoartrosepijn werd vergeleken met placebo enkel een significant pijnstillend effect gevonden in de subgroep met mechanische pijn zonder inflammatoire tekens, waar in een andere studie, vergeleken met NSAID, voor het merendeel van de patiënten geen verschil in effectiviteit werd aangetroffen. Postoperatief werd enkel de combinatie 'paracetamol plus tramadol' onderzocht met een significant opioïdsparend effect. Paracetamol werd goed getolereerd zonder impact op de nierfunctie. Afwijkende leverfunctiewaarden werden genoteerd bij therapeutische dosissen, maar zonder duidelijke klinische relevantie. Zowel inname van 2 g/d als 3 g/d verhoogde de INR bij warfarinetherapie. -Tramadol- Kortdurend gebruik als additie aan de gebruikelijke perioperatieve aanpak resulteerde in significant lager gebruik van morfine. Tramadol werd goed getolereerd, met weinig ernstige bijwerkingen. Het aantal en de aard van de bijwerkingen varieerde niet significant met de leeftijd.

Conclusie Er zijn weinig wetenschappelijke studies omtrent paracetamol en tramadol specifiek bij ouderen, wat contrasteert met de toenemende groei en het hoge geneesmiddelengebruik van deze bevolkingsgroep. Bijkomend onderzoek naar pijnstilling bij ouderen is dan ook sterk aanbevolen.

75. Convergente validiteit van de Brussels Integrated Activities of daily living scale (BIA) in een populatie met milde cognitieve problemen

Karen Van Weverberg, Ellen Gorus, Elise Cornelis, Patricia De Vriendt

Doel Evaluatie van de activiteiten van het dagelijks leven (ADL) heeft een belangrijke plaats in de diagnostiek en behandeling van cognitieve problemen. Deze studie onderzoekt de convergente validiteit van de Brussels Integrated Activities Scale (BIA), report-based, versus een performance based instrument, Naturalistic Action Test (NAT), bij de diagnostiek van milde cognitieve problemen. De BIA is opgebouwd uit drie delen (basale-, instrumentele-, geavanceerde-ADL) waarvoor telkens drie indexen worden berekend (globale-, fysieke en cognitieve index). De NAT observeert drie ADL's met een toenemende complexiteit en kent een uitgebreide evaluatiescore waarbij de prestatiescore gekoppeld wordt aan een foutenrange.

Methodologie In een universitair dagziekenhuis geriatrie werden (1) cognitief gezonde ouderen (CGP) ($n=10$), (2) ouderen met Mild Cognitive Impairment (MCI) ($n=10$) en (3) ouderen met milde dementie (AD) ($n=10$), allen thuiswonend en minimum 65 jaar oud geïncludeerd en geëvalueerd met MMSE, Camcog, Katz, Lawton en aanvullend de BIA en de NAT.

Resultaten Er zijn significante correlaties tussen de verschillende indexen van de BIA en de NAT ($0,740 < r < 0,806$). De cognitieve a-ADL-BIA-index ($r=0,828$ en $r=-0,754$) en de NAT ($r=0,814$ en $r=0,832$) tonen de beste samenhang met respectievelijk MMSE en CamCog. De cognitieve a-ADL-BIA-index (AUC 0,780) en de NAT (AUC 0,855) hebben een sterke accuraatheid om MCI te onderscheiden van CGP.

Conclusie De NAT en de BIA beschikken over een sterke convergente validiteit en een gelijkwaardige discriminerende validiteit. Een report-based instrument heeft echter als voordeel dat het minder tijdrovend, eenvoudiger af te nemen en minder belastend is voor zowel de informant als de patiënt.

76. Which are the success factors to realize meaningful activities for nursing home residents? An analysis of good practices

Ruben Vanbosseghem, Elise Cornelis, Valerie Desmet, Ellen Gorus, Lien Van Malderen, Dominique Van de Velde, Patricia De Vriendt

Purpose Meaningful activities of daily living (MADL) are important for the well-being and health of nursing home residents (NHR). Little research has been published about MADL and how to organize MADL. Therefore, it is impor-

tant to learn from good practices in order to organize MADL in a structured way. Based on the principles of appreciative inquiry, which focusses on positive aspects and strengths, this study identified success factors to realize MADL in NH. **Methods** Participant observation of 24 good practices was conducted, using an observation tool and additional semi-structured interviews with 47 persons including NHR, professional caregivers and NH managers. Activities based on the interests and wishes of the NHR were seen as good practices. Data were analysed using an open-minded approach with constant comparative analysis.

Results Ten success factors could be identified. MADL should (1) cover the normal daily life of the NHR and (2) are embedded in daily care routine. Professionals should (3) identify the MADL with the NHR and (4) facilitate participation. MADL should lead to (5) pleasure and satisfaction, they should be challenging (6) and allow the NHR to perform the activity independently or with assistance. (7) The atmosphere and living environment should be open and relaxed, (8) with specific attention to social contact. Caregivers should be (9) creative and innovative and (10) should evaluate MADL frequently.

Conclusion The identification of these ten success factors is a step forward to organize MADL in a more structured way, using a client- and activity-centred approach.

77. Effectiveness of respite care to support informal caregivers of persons with dementia: a systematic review

Sophie Vandepitte, Nele Van Den Noortgate, Koen Putman, Sofie Verhaeghe

Purpose Supporting informal caregivers of persons with dementia is considered to be an effective strategy in improving well-being of caregivers, care recipients and in delaying nursing home admission. Although considerable research was yet conducted in investigating effectiveness of psychoeducational interventions, cognitive behavioural therapy and occupational therapy, effectiveness research of respite care seems to be rare. This systematic review aims to investigate possible effectiveness of different types of respite care to support informal caregivers of persons with dementia.

Methods A systematic literature search was conducted in Web of Science and PubMed, and the Quality Assessment Tool for quantitative studies was used to assess methodological quality. Randomized controlled trials, quasi-experimental studies, pretest-posttest studies without control group and cohort studies were allowed for inclusion.

Results Seventeen papers met the inclusion criteria. Day care services seem to be effective in decreasing caregiver burden and behavioural problems in persons with dementia, but also seem to accelerate time to nursing home admission. Results of temporary residential admission were rather mixed and showed unexpected adverse effects on both caregivers and care recipients. High-quality comparable evidence on community-based respite care is still lacking, whereas earlier qualitative evidence indicated promising results.

Conclusion In contrast to previous reviews, we were able to draw some conclusions about the effectiveness of some types of respite care. Still, there is a need for new intervention studies measuring the impact of respite care, especially in-home respite care programs, on caregiver, care recipient and the healthcare system.

78. Evaluatie van de kwaliteit van voorschrijven bij oudere patiënten met onco-hematologische aandoeningen

Barbara Vandervennet, Anja Velghe, Mirko Petrovic

Doel Bepaling van de prevalentie van 'potentially inappropriate prescribing' (PIP) en 'potentially prescribing omissions' (PPO) bij ouderen met een onco-hematologische aandoening.

Methodologie Retrospectieve studie van 193 patiënten van 70 jaar en ouder behandeld voor borstcarcinoom, pelvienne tumoren of hematologische maligniteiten. De medicatielijst bij ontslag werd geëvalueerd d.m.v. de Screening Tool of Older Peoples' Prescriptions (STOPP) en Screening Tool to Alert doctors to Right Treatment (START) criteria (versie 2008). De prevalentie van PIP en PPO en mogelijke relatie met polyfarmacie (≥ 5 geneesmiddelen), leeftijd, geslacht en comorbiditeit (bepaald d.m.v. Cumulative Illness Rating Scale-Geriatric score, CIRS-G) werd nagegaan.

Resultaten De prevalentie van PIP en PPO bij de 183 geïnccludeerde patiënten bedroeg 43,2% en 25,1% respectievelijk. PIP en PPO waren significant geassocieerd met polyfarmacie ($p < 0,001$) en comorbiditeit (PIP: level 1–2, $p = 0,019$; level 3–4, $p = 0,008$; PPO: level 1–2, $p < 0,001$; level 3–4, $p = 0,002$). Significant meer mannen dan vrouwen kregen een geïndiceerd geneesmiddel niet voorgeschreven ($p = 0,032$). Verder bleek bij hematologische aandoeningen een sterk verhoogd risico op PIP en vooral PPO in vergelijking met patiënten met borstcarcinoom (PIP- hooggradig: OR 3,6; 95%CI 1,47–8,81; $p = 0,005$; laaggradig: OR 2,66; 95%CI 1,15–6,14; $p = 0,022$; PPO- hooggradig: OR 12,7; 95% CI 2,7 tot 59,1; $p = 0,001$; laaggradig: OR 10,7; 95% CI 2,4 tot 48,3; $p = 0,002$).

Conclusie De prevalentie van PIP en in mindere mate PPO is hoog bij oudere patiënten met een onco-hematologische aandoening. Vooral het risico op PIP en PPO bij hematologische maligniteiten t.o.v. borstcarcinoom is opvallend en dient in toekomstige studies verder uitgediept te worden.

79. A frailty consensus—myth or reality?

Roberta Vella Azzopardi, Sofie Vermeiren, Ann-Katrin Habbig, Ivan Bautmans, Ellen Gorus, Mirko Petrovic, Nele Van Den Noortgate, Ingo Beyer

Purpose To explore existence of consensual frailty language, that is, the link between the existing frailty instruments and the universal language of the International Classification of Functioning, Disability and Health (ICF).

Methods PubMed, Web of Knowledge and PsycINFO were screened for relevant papers on frailty instruments using the keywords "aged, frail elderly, frailty, diagnosis, risk assessment and classification". Their items were then linked to the ICF codes via the ICF linking rules of Cieza et al. (2005).

Results We retrieved 1984 potential articles from which 67 relevant papers were retained. This search identified 79 original or adapted frailty instruments, two of which were not sufficiently described to be included in further analysis. Twenty-five instruments are single domain (only physical component or co-morbidities), while 52 are multidomain (physical, functional, cognitive, medical and/or psychosocial components). With the exception of Gill Frailty Index and Timed Up and Go, all frailty instruments include

items linked to the ICF component Body Functions (primarily Chap. 1 (Mental functions) and Chap. 4 (Functions of the cardiovascular, haematological, immunological and respiratory systems)). All instruments except mSOF have items linked to the ICF component Activities and Participation (mainly Chap. 4 (Mobility) and Chap. 5 (Self-care)). However, the ICF components Environmental and Personal factors were only scantily represented in the multidomain frailty instruments. Merely five multidomain instruments were linked to all five ICF components.

Conclusion The ICF can potentially serve as a framework for the standardization of frailty language and indicates gaps in the current frailty instruments with respect to important health-related factors.

80. The predictive validity of frailty status for BADL disability and institutionalization

Sofie Vermeiren, Roberta Vella Azzopardi, David Beckwee, Ann-Katrin Habbig, Aldo Scafoglieri, Bart Jansen, Ivan Bautmans

Aim The aim of this study is to determine the available evidence for the predictive power of frailty status (pre-frail and frail) in community-dwelling elderly for the incidence of basic activities of daily living (BADL) disability and institutionalization.

Methods Web of Science, PubMed and PsycInfo were systematically screened for studies regarding the relation between frailty and BADL disability/institutionalization. Odds ratios (OR) and risk ratios (RR)/hazard ratios (HR) were extracted and/or calculated and meta-analyses were conducted in Open MetaAnalyst to assess the association between the current frailty status and the likelihood of developing BADL disability or being institutionalized.

Results Thirteen studies describing the association between frailty and BADL disability/institutionalization were included in the meta-analysis. Studies included frailty scales with a physical focus, a multidomain focus and deficit accumulation methods. The heterogeneity level (I^2) was moderate to high in all meta-analyses. Overall, frailty status increases the risk for developing BADL disability (OR = 2.350 (1.944–2.840), RR = 1.621 (1.406–1.868)) and for institutionalization (OR = 2.150 (1.288–3.588), RR = 1.631 (1.464–1.776)). For both outcomes, it seems that having a frail status is more predictive than having a pre-frail status. *Conclusion* Current frailty status significantly increases the risk for developing BADL disability and for institutionalization. However, heterogeneity was moderate to high between studies, which may be due to the large variety of frailty scales applied.

81. The predictive validity of frailty status for hospitalization and mortality

Sofie Vermeiren, Roberta Vella Azzopardi, David Beckwee, Ann-Katrin Habbig, Aldo Scafoglieri, Bart Jansen, Ivan Bautmans

Aim This study aims to determine the available evidence for the predictive power of frailty status (pre-frail and frail) in community-dwelling elderly for the incidence of hospitalization and mortality.

Methods Web of Science, PubMed and PsycInfo were systematically screened for studies regarding the relation between frailty and hospitalization/mortality. Odds ratios (OR) and risk ratios (RR)/hazard ratios (HR) were extracted and/or calculated and meta-analyses were conducted in Open MetaAnalyst1 to assess the association between the current frailty status and the likelihood of hospitalization or premature mortality.

Results Thirty studies describing the association between frailty and hospitalization/mortality were included in the meta-analysis. Studies included frailty scales with a physical focus, a multidomain focus and deficit accumulation methods. The heterogeneity level (I^2) was moderate to high in all meta-analyses. Overall, frailty status increases the risk for hospitalization (OR = 1.761 (1.481–2.095), RR = 1.184 (1.097–1.278)) and for mortality (OR = 2.341 (1.773–3.091), RR = 1.830 (1.694–1.978)). For both outcomes, it seems that having a frail status is more predictive than having a pre-frail status.

Conclusion Current frailty status significantly increases the risk for hospitalization and mortality. However, heterogeneity was moderate to high between studies, which may be due to the large variety of frailty scales applied.

82. Naar een getrappt gebruik van BelRAI met de BelRAI Screener

Bram Vermeulen, Liza Van Eenoo, Dirk Vanneste, Anja Declercq

Doel Niet alle ouderen die professionele zorg ontvangen hebben een comprehensief assessment, zoals een volledige BelRAI-beoordeling, nodig. De BelRAI Screener is een screeningsinstrument om te bepalen of een volledige BelRAI-beoordeling aangewezen is. De BelRAI Screener bestaat uit vijf modules (IADL, ADL, cognitie, psychische en gedragsproblemen) en elke module bevat items uit het bestaande interRAI-instrumentarium. We onderzoeken of deze BelRAI Screener inhoudelijk volstaat om de zorgzwaarte te meten en onderbouwen vanaf welke cut-off score (1) een volledige BelRAI-beoordeling aangewezen is en (2) tenlasteneming voor de Vlaamse zorgverzekering mogelijk is.

Methode Empirische validatie van de BelRAI Screener in de sectoren van het Woonzorgdecreet, uitgebreid met de Vlaamse zorgverzekering, door bij eenzelfde cliënt éénmalig, gelijktijdig en elektronisch drie instrumenten te scoren, namelijk de BelRAI Screener, de Katz-schaal en de BEL-profielschaal.

Resultaten Vlaamse organisaties uit de woonzorg hebben 1353 zorgvragers ingeschaald met de drie verschillende instrumenten. In vergelijking met de Katz-schaal en BEL-profielschaal is de BelRAI Screener beter geschikt om de zorgzwaarte vast te stellen door niet alleen met de totaalscore, maar ook met de scores per module rekening te houden. Zo is een volledige BelRAI-beoordeling nodig wanneer de zorgvrager cognitieve, psychische en/of gedragsproblemen heeft. Een tenlasteneming voor de Vlaamse zorgverzekering kan indien de cliënt enkel ernstig (I)ADL-afhankelijk is.

Conclusie De BelRAI Screener is een oplossing voor de behoefte aan een getrappt gebruik van BelRAI zodat voor minder zwaar zorgbehoevenden, zeker in de thuiszorg, niet een volledige BelRAI-beoordeling ingevuld moet worden. Daarenboven, biedt de screener mogelijkheden richting transversale en unieke inschaling van zorgafhankelijkheid.

83. Nut van de Interne Liaison Geriatrie in een algemeen ziekenhuis - ZNA Middelheim Antwerpen

Riet De Vogel, Maurits Vandewoude

Doel De Interne Liaison Geriatrie (ILG) vervult een belangrijke rol door het screenen en ondersteunen van geriatrische patiënten op niet-geriatrie diensten alsook sensibilisatie en sturing van specifiek geriatrische problematiek. In dit abstract worden enkele items uit de ILG screening in het AZ Middelheim (AZM) te Antwerpen toegelicht.

Methodologie Er is een registratie van alle patiënten sinds 01/2009. Nutritionele toestand, cognitie, mobiliteit, aanwezige thuishulp, huidige woonsituatie en noodzaak van hulpmiddelen bij stappen worden gescreend. Zo nodig wordt een Katz-profiel opgemaakt en het valrisico bepaald. Sinds 2011 wordt elke patiënt onderverdeeld in een categorie al naargelang de uitgevoerde items: categorie 1 (basisscreening), categorie 2 (basisscreening + bijkomende screeningstesten) en categorie 3 (basisscreening + uitgebreide screeningstesten + specifieke begeleiding zoals uitstippelen zorgtraject).

Resultaten Er waren 10962 registraties. Van deze registraties was 56,7% ($n=6216$) afkomstig vanuit Interne Geneeskunde, 40,4% ($n=4430$) vanuit Chirurgie en 2,9% ($n=316$) uit andere diensten (Gynaecologie-NKO-Oftalmologie-Dermatologie-Revalidatie-Spoedgevallen-Intensieve Zorgen). Er was een statistisch significant verschil in ernst van valrisico ($p<0,001$), met een hoger valrisico op diensten Interne Geneeskunde. Op deze diensten werd er ook significant meer advies specifiek naar ontslag toe gegeven ($p<0,001$). Valrisico is ook verbonden met iADL ($p<0,001$) en cognitieve screening ($p<0,001$). Categorie 1 interventies waren aanwezig in 15,9% ($n=1739$), categorie 2 in 32,9% ($n=3605$) en categorie 3 in 32,0% ($n=3513$); in 19,2% ($n=2105$) werd er nog geen categorisatie uitgevoerd (<2010).

Conclusie Er is een belangrijk mate van geriatrische patiënten op niet-geriatrie afdelingen. De ILG toont zijn meerwaarde door in 64,9% van de gevallen afwijkingen te duiden die meer doorgedreven geriatrische screening en advies nodig hebben.

84. Mortality, hospitalization, institutionalization in community-dwelling oldest old: the impact of medication

Maarten Wauters, Monique Elseviers, Bert Vaes, Jan Degryse, Robert Vander Stichele, Thierry Christiaens, Majda Azermai

Background High drug use and associated adverse outcomes are common in older adults. This study investigates association of medication use with mortality, hospitalization and institutionalization in a cohort of community-dwelling oldest old (aged 80 and over).

Methods Baseline data included socio-demographic, clinical and functional characteristics and prescribed medications. Medications were coded by the Anatomic Therapeutic Chemical classification. Survival analysis was performed at 18 months after inclusion using Kaplan-Meier and multivariate analysis with Cox regression to control for covariates.

Results Patients' ($n=503$) mean age was 84.4 years (range 80–102), and 61.2% were female. The median medication use was 5 (0–16). The mortality, hospitalization and institutionalization rate were 8.9, 31.0 and 6.4%, respectively. The mortality and hospitalization group had a higher level of multimorbidity and weaker functional profile. Adjusted multivariate models showed an 11%-increased hospitalization rate for every additional medication taken. No association was found between high medication use and mortality nor with institutionalization. A higher association for mortality was observed among verapamil/diltiazem users. Hospitalization was higher among users of verapamil/diltiazem, loop diuretics and respiratory agents. Institutionalization was higher among benzodiazepines users.

Conclusion In the community-dwelling oldest old (aged 80 and over), high medication was clearly associated with hospitalization, independent of multimorbidity. The association with mortality was clear in univariate, but not in multivariate analysis. No association with institutionalization was found. The appropriateness of the high medication use should be further studied in relation to mortality, hospitalization and institutionalization for this specific age group.

Seksualiteit en intimiteit bij vrouwen vanaf 50 jaar; een exploratief onderzoek naar leeftijds- en tijdsgebonden differentiaties van gedrag en beleving

Filip Willems

Doel De studie handelt over seksualiteit en intimiteit bij vrouwen vanaf 50 jaar en heeft als doel inzicht te verwerven in de leeftijds- en tijdsgebonden differentiaties van gedrag en beleving.

Methodologie Gezien de complexiteit van het onderwerp werd er gekozen voor een exploratief onderzoek met gestructureerde vragenlijst met voornamelijk gesloten vragen. Deze enquête bestond uit 60 vragen die via vijftien telefonisch gecontacteerde huisartsen en vijf gynaecologen verspreid werd. Elke arts diende tien vragenlijsten te verspreiden.

Resultaten Aan het onderzoek namen in totaal 72 vrouwen deel met een gemiddelde leeftijd van 60 jaar. 90% van de respondenten bevond zich op het moment van de bevraging in de menopauze. 78% van de deelnemers was de maand voorafgaande aan het onderzoek seksueel actief. De seksuele activiteit neemt wel af met toenemende leeftijd en kan beïnvloed worden door ziekte, fysiologische veranderingen, stress en vermoeidheid. In vergelijking met de studie uit de jaren '90 komt sterk naar voren dat er een sterke daling is in het bevestigen van stereotypen, er een sterkere tolerantie is tegenover masturbatie binnen het huwelijk en homoseksuele samenlevingsvormen. Naast deze sociale veranderingen zien we op medisch vlak een sterke terugval van het aandeel vrouwen dat hormoontherapie krijgt

Conclusie Weinig tijdsgebonden differentiaties op gebied van seksueel gedrag en beleving, maar vanuit sociale invalshoek zien we een sterke afname in de bevestiging van stereotypen en werd een verhoogde bespreekbaarheid vastgesteld. Verder zien we een transitie waarbij seksualiteit meer gekoppeld wordt aan lust en plezier dan aan reproductiviteit